The Mining Journal,

RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

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TREWAVAS TIN, COPPER, AND SILVER LEAD MINE

(WEST CORNWALL).

Conducted under the Cost Book System in 6000 Shares, of which 3000 are now offered.

TRUSTEES.

S. S. COWPER, Esq., F.R.G.S., Wycliffe Terrace, Wandsworth, S.W.; Capt. C. B. ST. GEORGE, Army and Navy Club (who have each taken 1000 shares).

BANKERS.

Messrs. TWEEDY, WILLIAMS, and CO., Truro, Cornwall.

SOLICITORS.

Messrs. CARLYON and PAULL, Truro, Cornwall.
Messrs. DIGBY and SON, 35, Lincoln's Inn Fields, London, W.C.; and Maldon, Essex.

LOCAL PURSER—CHARLES PARRY, Esq., Scorrier, Cornwall.

AGENT ON THE MINE.

Capt. WILLIAM TREWEEKE, Breage, near Helston, Cornwall.

AUDITORS.

Messrs. BRIDGE and CO., 29, Bread-street, Cannon-street, City.

SECRETARY—Mr. ARTHUR TROUP.

OFFICES (pro tem).

29, BREAD STREET, CANNON-STREET, LONDON, E.C.

ABRIDGED PROSPECTUS.

The object of this company is to purchase and work the Trewavas Tin, Copper, and Silver-Lead Mine, situated on the sea shore, in the parish of Breage, three miles west of Helston, and within a mile south of the high road from that town to Marazion and Penzance, Cornwall. The sett extends on land 1200 yards north and south, and 800 yards east and west.

There are seven principal lodes, three of which are of tin and four of copper, with intersections at 12 points, and with three main channels of clay at 16 junctions, with masses of soft decomposed granite acting as matrix for vast deposits of ore, besides silver-lead and iron lodes not proven. Sir Henry T. De la Beche, F.R.S., while engaged in the Ordnance Geological Survey of this district, examined and took parcienlar notice of these mines, and reported that proper development would class them with the richest in the county.

The late Sir Roderick Murchison also expressed a very high opinion of the great mineral wealth of this property.

The east copper lode yielded upwards of £110,000 worth of ore from commencement of working in 1835 to its abandonment in 1846, consequent upon working under the sea, when from want of care in opening the upper levels works were conducted too near to the sea bed, which with defective ventilation led to the stoppage of the mine, and from want of capital and various other causes it has not since been effectively resumed.

Instead, therefore, of draining and extending the submarine section, the company will develope the equally rich western lodes in conjunction with the tin, with such presage of lucrative return as infallible indication and the most experienced judgment afford.

The engineers are unanimously confident of success resulting from proper development on account of the coincidence of geological and narrative evidence of the abundance, precise situation, and course of the ores, and facility of working them, with the favourable conditions of the compact and interwoven system of the lodes, and the large amount already expended in preliminary operations. They agree as to the best plan of operation (which is obvious) and estimate the investment of £1000 for attainment of an equilibrium between outlay and return and for gradual development, but recommend £4000 for vigorous action to realise large dividends at earlier date.

The mines adjoining and surrounding Trewavas have sold more than £4,000,000 worth of tin; the outlay has been small, but they have given great dividends, and shares advanced high in price, viz.:—

Great Work Tin Mine paid in dividends, £140,000 ... Shares were £240 each.						
Godolphin	,,	,,	,,	90,000 ...	,,	400 ,,
Hallamanning	,,	,,	,,	80,000 ...	,,	350 ,,
Retallack	,,	,,	,,	60,000 ...	These shares went to a high price.	
Pembeythy Crofts	,,	,,	,,	40,000 ...		
Great Wheal Vor	,,	,,	,,	94,000 ...		

PRECIS OF REPORTS.

Captain MICHAEL WILLIAM MARTYN, late of Breage, eleven years agent of Trewavas Mine.

The lodes are very favourably situated close to the soft granite from the killas, identical with that in which the best mines in Cornwall have been found. In the western ground the clay which crosses the lode is soft white decomposed granite, the same as yielded so large a quantity of copper in the eastern lode worked under the sea, and if sunk to a fair depth they will, with the aid of a 24-inch cylinder engine, I have no doubt, prove equally productive. For this my estimate is £3200.

Capt. CHARLES THOMAS, of Dolcoath Mine:—

I have pointed out sites on two of the copper lodes westward, which should be immediately worked, one being a continuance inland of the lode which has been so profitably worked under the sea; the other, further west, entailing from its position comparatively little expense. Both will have the important advantage over the old mine of shafts and ventilation, which will tend greatly to enhance the profit from similar returns. My estimate of cost, including a 20-inch cylinder engine, and sinking to the depth of 50 fms., is £1000, which will be well invested.

Capt. THOMAS RICHARDS, late of Prosper United Mines:—

I have carefully examined both the copper and tin lodes of the western part of the Trewavas Mine sett. I found good stones of copper ore in a shaft sunk 18 fms. on a lode from 12 to 18 inches in width; 20 fms. north of this lode is a rich stratum for exploration, on a lode of 18 inches in width, and 20 fms. further north a still richer lode already opened. A cross course which intersects these lodes at right angles confirms my anticipation of an abundant yield of copper when worked to a greater depth. The two northern lodes should be immediately worked with a 24 inch engine, at an outlay for proper development of £2000 to £2500.

In addition to these three of copper, there are two lodes of tin, which have been extensively worked on the backs to the water level, a depth of 18 fms.; one of these can be seen to the depth of 50 fms. by extending 30 fms. westward the adit from the cliff on the copper lode, called the "Nimble Cutter." This is a very important step, which should be taken at once; the cost would be trifling, not exceeding 30s. per fathom. Favourable as my opinion is of the copper lodes, I think still more highly of the tin ground for profitable investment.

Capt. EDWARD BLEWITT:—

I have carefully weighed the several points affecting the value of the western ground of the Trewavas Mine.

1st.—The relative identity of formation, character, and position of rock with that of the famed mines of Botallack and Levant, which have had so long and lucrative a career of success.

2ndly.—The numerous junctions of granite with killas, and intersection of lodes, cauuters, cross-courses, and clay channels of congenial nature for abundant yield of ore.

3rdly.—The small monthly outlay required to lay open several well-known and well defined lodes on unwrought points to proper depths and lengths.

4thly.—The positive and strongly expressed opinions from personal examination of so experienced and eminent authorities as Sir H. T. De la Beche and Sir Roderick Murchison that these mines would, by proper development, rank with the richest in Cornwall.

From my experience and intimate knowledge of mining in this district I have formed a most favourable opinion of the prospects of these lodes, and from my confidence in their productive capacity at comparatively trifling cost I decidedly recommend their development as a safe and profitable investment.

One half of the shares are privately taken, and applications for the remainder, accompanied by a remittance of 10s. a share (which will probably be the entire cash outlay) may be forwarded to the bankers, or to the secretary at the company's offices, and allotment will be made according to priority of receipt of application.

Further information will be only furnished in writing, within reasonable time of receipt of enquiry, likewise in writing, at the offices.

TREWAVAS TIN AND COPPER MINING COMPANY

(COST-BOOK SYSTEM).

Notice is hereby given, that the SHARE LIST will CLOSE on WEDNESDAY next, May 6 inst. ARTHUR TROUP, Secretary.

MESSRS. WATSON BROTHERS return their most sincere thanks for the great patronage bestowed and confidence reposed in their firm for upwards of 30 years, and to assure their friends and clients it will be their earnest endeavour to merit a continuance of both.

In the year 1843, when Cornish mining was almost unknown to the general public, attention was first called to its advantages, when properly conducted, in the "Compendium of British Mining," commenced in 1837, and published in 1843, by Mr. J. Y. WATSON, F.G.S., author of "Gleanings among Mines and Miners," 'Records of Ancient Mining," "Cornish Notes" (first series, 1862), "Cornish Notes" (second series, 1863), "The Progress of Mining," with Statistics of the Mining Interest, annually for 21 years, &c., &c. In the Compendium, published in 1843, Mr. WATSON was the first to recommend the system of a "division of small risks in several mines, ensuring the success in the aggregate," and Messrs. WATSON BROTHERS have always a selected list on hand. Perhaps at no former period in the annals of mining has there been more peculiar need of honest and experienced advice in regard to mines and sharedealing than there is at present; and, from the lengthened experience of Messrs. WATSON BROTHERS, they are emboldened to offer, thus publicly, their best services to all connected with the mining interest.

Messrs. WATSON BROTHERS are daily asked their opinion of particular mines, as well as to recommend mines to invest or speculate in, and they give their advice and recommend mines to the best of their judgment and ability, founded on the best practical advice they can obtain from the mining districts, but they will not be held responsible, nor subject to blame, if results do not always equal the expectations they may have held out in a property so fluctuating as mining.

COLLIERIES, IRONWORKS, &c.

Among the great complaints of metallic miners of late, has been the high prices of Coal and Iron; thus while dividends in Copper and Tin Mines have been gradually declining, many Collieries and Ironworks have been paying 20, 30, and even 60 per cent.; and in consequence of this, Messrs. WATSON BROTHERS have had several enquiries from clients for prices and particulars of the best investments in both classes, and they are collecting information which they hope to publish from time to time, and will be glad if Secretaries and Managers will furnish them with the same kind of information that Pursers and Secretaries of Metallic Mines have so freely done during the last 30 years. In the meantime they will be ready to deal, at Market prices, in any or all of them.

MR. J. S MERRY,
ASSAYER AND ANALYTICAL CHEMIST
SWANSEA

THE NORTH DELABOLE SLATE QUARRY COMPANY (LIMITED).

Incorporated under the Companies Acts, 1862 and 1867.

Capital £30,000, in 15,000 Shares of £2 each,

10,000 of which are offered to the public.

OFFICES,—No. 34, NEW BRIDGE STREET, E.C.

Prospectuses, with reports and forms of application for shares, may be obtained of the Secretary, at the offices of the company; or of the bankers, Messrs. WILLIAMS, DEACON, and Co., 20, Birchin-lane, E.C.; and the East Cornwall Bank, Bodmin, and branches.

THE NORTH VAN MINES (LIMITED).

Registered under the Companies Acts, 1862 and 1867.

Capital £60,000, in 12,000 shares of £5 each,

Of which 4000 are taken by the vendors in part payment for the mine.

£1 to be paid on application, and £2 on allotment.

DIRECTORS.

WENTWORTH GORE, Esq., of Lyndhurst, Hants.
WALTER SHAW BLACK, Esq., Edgbaston, Birmingham, Director of the Welsh Steam Coal Collieries, and Chesterfield and Bythorpe Collieries Company.
CHARLES WILCOXON, Esq., of Messrs. A. and R. Wilcoxon, Monument Yard, London, E.C.
CHARLES WINN, Esq., Wood-street, and Uplands, Selby Hill, Birmingham.

(With power to add to their number.)

BANKERS—THE ALLIANCE BANK.

SOLICITORS.

Messrs. MILLER and MILLER, 5 and 6, Sherborne-lane, London, E.C

OFFICES OF THE COMPANY—No. 9, OLD BROAD STREET, LONDON.

This company is formed to purchase the leases of two mine setts, known as the North Van, and the West Nanty Lead Mines, situated in the Van district, Montgomeryshire, on the south side of the Plynlimmon Range, the former about seven and the latter about twelve miles from the town of Llanidloes.

The West Nanty property is bounded on the west by the River Wye, and the North Van has for its southern company the River Severn; both rivers supplying at all seasons ample water power for every purpose of development.

Both leases are for 21 years, at a royalty of only one-sixteenth.

Both setts are in the same geological formation and district as the celebrated Van Mine, the shares of which are already quoted at from eight to nine times the amount paid on them.

THE WEST NANTY.

The engine, or main, shaft has been sunk 52 fathoms, or 34 fathoms below the adit, whose level has been driven 136 fathoms. Levels have also been driven out east and west upon the lode at 10, 22, and 34 fathoms below adit.

The sett is one mile in length on the course of the lode, and about the same in breadth. It is on the same lode as the celebrated Van, the lode having been distinctly traced throughout, and being here, as in the Van, from 25 to 30 ft. wide.

A large quantity of ore has been raised and sold, principally from the shallow workings in the adit level, and a still larger amount has since been discovered, and is held in reserve.

There is plenty of machinery of the best kind for carrying on extensive operations, as well as miners' cottages, smiths shop, store-rooms, dressing-sheds, &c.

Captain James Paull, of Goginan, and Captain Walter Eddy have recently inspected and reported upon this mine, the former concluding with the opinion "that it will, when further developed, and within a comparatively short period, turn out large quantities of ore, and become a very profitable mine;" and the latter that, "with ordinary energy, it will be in a position in a few months to make monthly sales of ore, and, as there will then be a large extent of backs to stope away, should be making a good profit on such returns."

THE NORTH VAN.

The main lode of this mine, the direction of which is the same as that of all the rich lodes in the district, is large and well-defined, being from 8 to 9 ft. wide, embedded in clay-slate, with lime spar thinly scattered throughout. The ores, both of lead and zinc, show a continued improvement with the increase in depth.

From near the river side a deep adit level has been driven 70 fathoms, meeting the main shaft at a depth of 22 fathoms, thus draining all the upper part of the mine, and at the same time serving as an outlet for stuff.

There is ample machinery for the full development of the mine, a work of unusual facility and cheapness.

The mine has been twice inspected by Capt. Walter Eddy, who states in his first report:—"I think it is a capital speculation, and one holding out most encouraging prospects of making a good mine in depth." And again, in June, 1873:—"A second examination of the vein and sett fully confirms the good opinion I formed of both on my first visit." Capt. Paull, of Goginan, and Capt. Kitto confirm these favourable opinions.

As a large quantity of good ore is already in sight in the West Nanty Mine, it will soon realise dividends. And in the meanwhile the North Van, the working of which will be unusually easy and cheap, may be advanced under the same management to a similar state of development.

Plans of the mines and workings, reports, specimens of the ore, with copies of the leases and agreement, may be seen at the offices of the company.

Prospectuses, with reports, and forms of application, may be obtained of the bankers, solicitors, and at the offices of the company.

MINING MACHINERY.

MESSRS. F. W. MICHELL AND CO. have FOR SALE several CORNISH PUMPING, STAMPING, and WINDING ENGINES, of different sizes; BOILERS from 6 to 12 tons each; PITWORK of all sizes; CORNISH CRUSHERS; STAMP AXLES; IRON FLAT-RODS; STRAPPING PLATES; and other MATERIALS in general use in Mines, &c.

EAST CARN BREA, REDRUTH, CORNWALL.

FOR SALE, OR HIRE, the following NEW or SECONDHAND PLANT and MACHINERY, in thoroughly efficient condition:—

VERTICAL ENGINES.

2	Vertical Combined Engines and Boilers		4¼	in. cylinder.
1	ditto	ditto	5½	,,
3	ditto	ditto	6	,,
1	ditto	ditto	6½	,,
3	ditto	ditto	6¾	,,
2	ditto	ditto	7½	,,
1	ditto	ditto	8½	,,

PORTABLE ENGINES.

1	Portable Engine	5½	in. cylinder.	6 Portable Engines ..	9½ in. cylinder.
1	ditto	6¼	,,	4 ditto	10¾ ,,
1	ditto	6¾	,,	6 ditto	2—7½ in. cylinders.
3	ditto	7½	,,	6 ditto	2—8½ ,,
3	ditto	8½	,,	3 ditto	2—9 ,,
10	ditto	8¾	,,	3 ditto	2—9½ ,,

CRANES AND WINDING ENGINES.

2	Steam Cranes for	30 cwt.
1	ditto	2 to 3 tons (Chaplin).
1	ditto	3 to 4 tons (ditto).
1	Hand Travelling Crane	3 tons.
1	ditto ditto	4 tons.

PUMPS.

3	Chain Pumps	8 × 4	1	Centrifugal Pump	5 inch.
4	ditto	10 × 5	4	ditto	7 ,,
3	ditto	12 × 6	7	ditto	8 ,,
1	ditto	14 × 7	4	ditto	9 ,,
1	ditto	16 × 8	2	Contractors' Pumps.	
1	ditto	24 × 8	3	Deep Well Pumps.	
1	ditto	30 × 10	1	Plunger Pump	10 ,,
3	Woodford's Pumps, double	4 inch.	1	Bull Pumping Engine, 24 in. cylinder.	
2	ditto ditto	6 ,,			

MORTAR MILLS.

2	Mortar Mills, with 4 ft. pans.		5	Mortar Mills, with 7 ft. pans.	
4	ditto	5 ,,	5	ditto	7 ft. 6 in. pans.
1	ditto	6 ,,	6	ditto	9 ft. pans.

SAW BENCHES, &c.

1 Bench, 4 ft. × 2 ft., with 24 in. saw.
4 Benches, 5 ft. × 2 ft. 6 in., with 36 in. saw.
1 Bench, self acting, 5 ft. × 2 ft. 9 in., with 32 in. saw, by Powis.
1 Wood planing Machine, by Robinson, 12 ft. × 15 in.
1 Hand Mortising Machine.
1 Grindtone Trough, for Moulding Irons.

SUNDRIES.

2 Blowing Fans, 12 in.; 1 Iron Pug Mill, 4′ 4″ × 2′ 0″; 1 Punching and Shearing Machine, for ¼ in.; 1 ditto ditto, for ⅜ in.; 1 Creosoting Cylinder, 66 ft. × 9′ × ¾ plates.
&c., &c., &c.

HENRY SYKES, 66, BANKSIDE, LONDON.

THE GREAT ADVERTISING MEDIUM FOR WALES.

THE SOUTH WALES EVENING TELEGRAM
(DAILY), and
SOUTH WALES GAZETTE
(WEEKLY), established 1857,

The largest and most widely circulated papers in Monmouthshire and South Wales.

CHIEF OFFICES—NEWPORT, MON.; and at CARDIFF.

The "Evening Telegram" is published daily, the first edition at Three P.M., the second edition at Five P.M. On Friday, the "Telegram" is combined with the "South Wales Weekly Gazette," and advertisements ordered for not less than six consecutive insertions will be inserted at an uniform charge in both papers.

P. O. O. and cheques payable to Henry Russell Evans, 14, Commercial-street Newport, Monmouthshire.

THE NEWCASTLE DAILY CHRONICLE
(ESTABLISHED 1764.)
THE DAILY CHRONICLE AND NORTHERN COUNTIES ADVERTI
Offices, Westgate-road, Newcastle-upon-Tyne; 50, Howard street, North Shields; 195, High-street, Sunderland.

Registration of New Companies.

The following joint-stock companies have been duly registered:—

FINANCIAL SYNDICATE COMPANY (Limited).—Capital 1,000,000*l.*, in 100*l.* shares. The subscribers (who take one share each) are—F. Gordon, Baltic-chambers; S. Copestake, Johnson's-buildings, Temple; H. Riotte, 64, Regent street; C. Beddall, Elm Villa, Hampstead; T. W. L. Emden, Russell-street; A. Beddall, Baltic-chambers; and J. Parkin, Jermyn-street, W.

LIVERPOOL GENERAL WAREHOUSING COMPANY (Limited).—Capital 2,000,000*l.*, in 10*l.* shares. To acquire warehouses, &c., in Liverpool and Birkenhead. The subscribers (who take 100 shares each) are—T. A. Bushby, Liverpool; R. Harterd, Trafford-chambers, Liverpool; J. A. Pickton, Queen's-buildings, Liverpool; W. Williams, 4, Nutford-street, Liverpool; W. H. Homley, Knowsley-buildings, Liverpool; Robertson Gladstone, Liverpool; J. Rouch, 1, Old Hall-street, Liverpool; F. A. Clint, York-buildings, Liverpool; and J. Pearson, Old Hall-street, Liverpool.

MEAT IMPORTING COMPANY (Limited).—Capital 50,000*l.*, in 1*l.* shares. To import meat from Texas, Buenos Ayres, and elsewhere. The subscribers (who take five shares each) are—C. Niemeyer, Croydon; W. J. Frewes, Stockwell Green; W. R. Warner, Gainsford-street; N. W. E. Fielding, Gower-street; H. B. Mitchell, Dale-hill House, Anerley; A. Thurmaling, Theobald's-road, Holborn; A. M. Hawnes, St. German's-road, Forest Hill.

PEOPLE'S CAFE COMPANY (Limited).—Capital 100,000*l.*, in 1*l.* shares. To establish cafés in various parts of London. The subscribers are—F. A. Bevan, 54, Lombard-street, 100; T. J. Denny, Connaught-place, 100; A. Wark, Bartholomew House, 500; J. C. Brown, Grosvenor Gardens, W., 500; E. F. Noel, Great Stanmore, 200; A. S. Ridley, Watling-street, 100; and G. Shepherd, 28, Threadneedle-street, 100.

NEW CONNAH QUAY CHEMICAL AND COAL COMPANY (Limited).—Capital 150,000*l.*, in 10*l.* shares. To take over the business of the Connah Quay Chemical Company (Limited), at Northop, in the county of Flint. The subscribers (who take 50 shares each) are—J. Barlow, Albert Mills, Bolton; Robert N. Curwen, 7, Oriel-chambers, Liverpool; F. Davies, Salford; A. Hamilton, King-street, Manchester; J. A. Rawlings, Preston; and H. Rayner, Chester.

BISHWELL COLLIERIES COMPANY (Limited).—Capital 60,000*l.*, in 20*l.* shares. To acquire the above colliery, the locality of which is not stated. The subscribers (who take one share each) are—George Bower, St. Neots; J. T. Emmerson, Knutsford; J. Hall, Beaumont Lodge, Stockport; J. Smethurst, Audenshaw; E. Ford, Todmorden; E. M. Burry, 21, Abingdon-street; and T. Jervis, 3, King-street, Cheapside.

CLEVELAND IRONSTONE COMPANY (Limited).—Capital 100,000*l.*, in 1000*l.* shares. To act as depositaries of iron and other things entrusted for safe custody. The subscribers (who are all of Middlesborough, and take one share each) are—G. Reesham, G. Dyson, J. G. Swan, W. Hanson, J. Jones, and E. Williams.

COUNTY ESTATES LAND COMPANY (Limited).—Capital 50,000*l.*, in 5*l.* shares. The subscribers to this company (who reside at Oldham, and take one share each) are—W. Hayne, T. Wormald, J. T. Austerburg, J. Greaves, H. Shaw, W. Shaw, and T. Wood.

HYDRAULIC ENGINEERING COMPANY (Limited). — Capital 100,000*l.*, in 5*l.* shares. To carry on business as mechanical engineers. The subscribers are—E. Hunter, The Glebe, Blackheath, 800; R. O. White, The Priory, Lewisham, 400; H. R. Ellington, 89, Watling-street, 400; R. H. Tweddle, 31, Duke-street, Westminster, 200; J. Morris, 6, Old Jewry, 200; J. G. Stapleton, Lee terrace, Blackheath, 200; and E. H. Ellington, Chester, 1.

TRAMWAY UNION COMPANY (Limited).—Capital 200,000*l.*, in 5*l.* shares. To acquire the business of the British and Foreign Tramways Company (Limited). The subscribers (who take one share each) are—J. R. Mitchell, 34, Canonbury; W. B. Parker, 47, Camden Park-road; H. Hulford, 42, Ingram-road, Clapham-road; J. H. Widdall, Norfolk-road, Dalston; A. Gayford, Tibberton-street, Islington; J. Williams, East-street, Finsbury; A. Vickers, 32, Ockenden-road, N.

FORDER'S CARRIAGE COMPANY (Limited).—Capital 100,000*l.*, in 5*l.* shares. To carry on business as carriage builders, &c., at Wolverhampton. The subscribers (who take one share each) are—F. Bancock, Wolverhampton; W. L. H. Cuzner, Ravenscourt Park, Hammersmith; J. Andrews, Ironmonger-lane; F. Bishop, Harrow-road; R. Mitchell, St. George's-road; F. Forder, Wolverhampton; J. Stuart, Herne Hill.

WEST'S GAS IMPROVEMENT COMPANY (Limited).—Capital 9000*l.*, in 100*l.* shares. To carry out improvements in the manufacture of gas and gas apparatus.

TEMPERLANA OILS COMPANY (Limited).—Capital 50,000*l.*, in 5*l.* shares

KINGSTON SANITARY WARE, BRICK, AND CLAY COMPANY (Limited).—Capital 40,000*l.*, in 1*l.* shares.

LIME MILL COMPANY (Limited).—Capital 60,000*l.*, in 20*l.* shares. To acquire a cotton spinning business at Hollinwood, Lancashire.

THE CITY BREWERY COMPANY (Limited).—Capital 45,000*l.*, in 25*l.* shares. The subscribers to this company reside at Lichfield.

SHILOH SPINNING COMPANY (Limited). — Capital 30,000*l.*, in 5*l.* shares. To acquire a business at Royton.

TECHNICAL EDUCATION IN CANADA.

As the future prosperity of the Dominion is admittedly dependent in a great measure upon the judicious development of her mineral and industrial resources, it is particularly gratifying to find that the efforts to provide increased facilities for the acquirement of sound technical knowledge made by the Board of Governors of the University of King's College, Windsor, appear to be fully appreciated in the province, and are already promising good results. A larger number of students from the immediate locality have been in attendance during the past year than at any previous time, and taking the total population of the province, and the number of students on the King's College books, the Nova Scotian community may be congratulated that a greater proportion of their number are receiving technical and collegiate instruction than is the case in many other countries, in which much credit is taken for the exertions made to secure the existence of science for the promotion of national industries. This success is no doubt due to the care which the governors have taken to supply during the University course a thoroughly practical as well as a sound literary education, and thus produce graduates not only fitted to occupy the position of gentlemen, but also able to maintain themselves with honour and profit when thrown upon their own resources.

With regard to the present teaching power of King's College, considered as a college of physical science (for it is unnecessary here to refer to its position as a school of theology, which has been sufficiently established during its 86 years of existence), it may fairly be described as excellent, since the range of subjects taught is fully as large as in the College of Physical Science connected with the University of Durham, which is recognised as one of the leading science schools in great Britain, whilst the professors occupying the several chairs are thoroughly competent. Under these circumstances it certainly becomes a question whether the comparatively small number actually attending each class is not a positive advantage to the student, since the amount of tutoring which can be given to a dozen or twenty becomes impracticable when one has to deal with five or six times the number. In the classes of mathematics natural philosophy, astronomy, and engineering respectively the student would have the opportunity of acquiring such a knowledge of analytical geometry, the differential and integral calculus, statics, the theory of the motion of a particle in one plane, and the elementary parts of hydrostatics, geometrical optics, and astronomy treated mathematically, as would prevent him from contracting erroneous notions during the study of the more practical portions of experimental physics, and thus enable him to avoid the annoying mistakes too often fallen into by so-called practical men in endeavouring to remove some trifling difficulty which they may have happened to encounter. The leading applications of science in connection with industrial pursuits would be learnt in the class of natural philosophy, wherein facilities are afforded for the study of practical mechanics and mechanism, including the applications of mechanical principles in mining, hydraulics, and pneumatic machinery; of light, electricity, and magnetism, especially with regard to their applications to industrial purposes; and of heat and its application, including the chief properties of heat employed in manufactures, and the more important methods of utilising it in the steam-engine.

It is, however, in the classes of chemistry and natural history that the subjects connected with mining as distinguished from mine engineering will be more extensively studied, for herein the student will be able to learn the application of geology, with physical and historical geology, mineralogy, and palaeontology, as well as the application of chemistry, the elements of organic chemistry, and the details of qualitative and quantitative analysis. It has been very truly stated that Canada ought now to be able to educate her own engineers and miners, and such efforts as those which have now been made at King's College, Windsor, will certainly enable her to do so; for here the student preparing himself for the engineering profession would acquire that scientific knowledge which is so essential to enable him to derive the utmost benefit from practical experience, and also learn surveying, drawing, and such other technical knowledge as would make him most useful to the practising engineer under whose guidance that necessary experience must be attained. That King's College might be in a position to

impart the necessary knowledge with the greatest facility, the governors have recently expended a large amount for the purchase of instruments of the highest class, and suitable books have been added to the library, so as to make it thoroughly efficient for consultation. Nor have the requirements of the student intending to devote himself to mining pursuits been less carefully attended to. There is an abundance of apparatus of the best construction and most approved form, and the instruction in practical chemistry is given on the system which made the reputation of the famous Giessen laboratory, and which is now almost universally adopted, especially in such laboratories as those of the Royal College of Chemistry, now the chemical department of the Royal School of Mines, London, and it is the stated object of the College authorities to give a direction to the advanced work of the students in accordance with their professional intentions. A great part of the analytical operations is made to consist of the examination of minerals, especially metallic ores and coals. The making of chemical preparations is carried on at convenient times, more particularly with reference to the purification of commercial substances and the direct production of reagents; the instruction in practical chemistry being, of course, in addition to that given in regular courses of lectures on chemical physics and inorganic and organic chemistry.

That the College is deserving of success in return for the material benefits which it offers to those who rely upon it for their education cannot be questioned, for with the command of technical knowledge such as might justifiably be expected in students who shall have completed the course of study here indicated, and with an intimate acquaintance with French and German, for the acquisition of which the board have provided ample facilities to the students by establishing the chair of modern languages, it is not unreasonable to expect that the Windsor graduates will be well able to hold their own in whatever position they may find themselves, and that when they are no longer students they will be able to keep themselves well informed as to the scientific progress taking place, either in the old world or the new.

GEOLOGY OF UPPER BURMAH, KHAN, AND WEST CHINA.

[Condensed from an elaborate paper by W. BREDEMEYER, M.D., in the "Mining and Scientific Press," of San Francisco.]

The coal district between the Irrawaddy and Kjnduen (a branch of the Irrawaddy rising near Patkoidown and flowing south-eastward to Yandubo, eight miles below Mandalay, the residence of the *King of Burmah*) is very productive. All the mountain chains are cut into by streams, forming valleys and basins, which are crossed by small water-courses. From a small valley ai Matsein, where a bed of bituminous coal (*lettenkohle*) is seen, coal beds extend past Kabort, Tingedoe and Tamboo to Kotoun on the Irrawaddy, eight miles above Mandalay. It is the primary formation, with rocks of the transition period. The exposed rocks are limestones, often with abrupt brakes, sandstones, clay-slates, and stone coals. At Kotoun the coal beds are covered to a depth of 29 to 30 ft. by calcareous slate, swinestone (or stinkstone, or bituminous lime), marl, loam and earth, and are enclosed between clay-slate and sandstone. The bed has a dip of 30°, and is 5 to 6 ft. thick, but often broken up by intercolated clays, so that the coal itself is only 3 ft. thick. The coal is anthracite, and contains 94·5 per cent. carbon, 4·2 oxygen, 0·8 water, and 0·5 ash. From Kotoun to Mandalay, on the right bank of the Irrawaddy, the sandstone appears in gently undulating mounds. The bed of a small brook between the Irrawaddy and the Kjnduen was filled with grains of calcite of the size of peas, these arising from weathered oolite. The rock declivities below Mandalay consist of mussels and coralline conglomerate, cemented by calcareous marl, and are, therefore, a kind of Tertiary (Molasse). The rocks extend to the coast of Aracan. In various localities near the coast there are qualitative differences. In general the cementing material consists of lime, magnesia, clay, with a mixture of iron oxide and a little manganese.

The conglomerate in the Nagay Mountains, half-way between the coast of Aracan and the Irrawaddy, reminds one of the sub-appenine formations. This rock is mixed with limestone in the neighbourhood of the Irrawaddy, and with chalk rocks near Amjen, which attain a height of about 400 ft. The deposit is horizontal, covers the mountain sides and ravines, and fills the crevices between the Jura limestone, which breaks through it here and there.

The limestone is coarsely granular, with many veins and geodes of calcite. Often streaks and fragments of alabaster are found. The limestone becomes more homogeneous with increasing depth, and contains much silica. In the siliceous limestone there occurs chalcedony of browish and yellowish red colour, with quartz goades and red siliceous limestone. The thickness of this lime deposit was 23 ft. The formation bears a strong resemblance to the white jura of Germany. Going upwards from Mandaly, 28 miles to Malun, and downwards about 10 miles along the right bank of the Irrawaddy to Maley, one finds first in the plain of Malun the sandy ground covered with innumerable lime rocks, and then there is a mountain with oolitic rocks consisting of white grains lying in a blue and grayish black marl traversed by veins of calcite. Under this is a grayish clay-slate. On the other side of the mountain, under the oolitic rock, occurs calcareous marl traversed by calcite veins. The rock contains silicate of iron.

In the mountains around are rich mines of brown ironstone (limonite), worked by the Burmese in a most irregular manner. They used fires for disintegrating the rock, and the power of powder for this purpose created great astonishment among them. The rock contains lime, magnesia, silica, alumina, oxide of iron, and manganese. In one of the mines the limonite ore traversed the oolite in a layer 3 ft. thick. Under the oolite was a greenish-white sandstone alternating with marl. Both rocks contained fossils. Next follows a calcareous shale, and then the yellow lias sandstone with slaty structure. After this formation the Keuper appears. The rock consists of breccia-like siliceous sandstone, and lies above a reddish clay-slate. Opposite Mandalay the Keuper marl appears everywhere, alternating by green sandstone, lime, and alabaster of a beautiful milk-white colour, the last in the marl. The sandstone becomes argillaceous below, has a green colour, and contains much mica. The same sandstone alternates, three miles below Kotoun, with thin beds of coal, which last, finally ¼ mile from the Irrawaddy, occur with a thickness of 5 ft.

Copper, lead, silver, and other deposits are also met with. The black clay already mentioned contains considerable copper as a coating, and much of this metal occurs in the calcareous sandstone. Here, in a region 15 geographical miles long and 7 miles wide, are many mines. In depth occur malachite and copper sulphurets. I worked among others a mine which contained in a sandstone with red spots large grains of azurite and malachite. The azurite occurred in crystals, and the malachite in kidney-shaped masses. I found by analysis 73 per cent. of copper. The veius dip to the south-east. The mineral-bearing rock has a width of 2½ ft., alternating with red clay. In the Khan States the formation is in general about the same, but the mountain chains are high (2000 to 7000 ft.), the roads poor, and there were many elephants and tigers. There are very rich copper mines here. I also found native copper in a white clay; also diorite and copper, malachite, and plate-like crystals of copper glance. Much richer were the lead and silver mines. The whole mountain chain, which extends from the left bank of the Irrawaddy, eight geographical miles above Mandalay, towards the Khan States in a north-westerly direction, and through these to Western China, belongs to the primitive formation, and more particularly to the ancient sedimentary group. It is composed of mica-slate and bluish-grey clay-slate, associated with talcose slate, to which are joined sandstone and grauwacke. The rock contains quartz, copper, lead, silver, quicksilver, platinum, gold, and iron of almost every kind. The lead and silver mines of Sekka-doung and Sekka-vee are situated in a valley enclosed by mountains. The deposits are covered by a layer of red clay 23 ft. thick. Many minerals are associated with quartz. The bordering rock is bluish-grey slate and grauwacke. The deposits appear to occur in stockworks, and reach nearly to the surface; they have a strike from north-east to south-west, at an angle of 75°.

The majority of the lead and silver mines are situated in the Khan States—Moung-la, Kijan-hung, Mu-ang-lee, Tjengkan. The lead ores contain 65 to 72 per cent. lead, the fahl ores 4 per cent. silver, and the silver ore 70 to 83 per cent. silver. The Burmese and Khans obtain, however, by smelting only about 50 per cent. of the metal, for their furnaces are very incomplete. It was not possible for me to get better furnaces; in the attempt to do so I met with invincible obstinacy. I often proposed to the King to build better furnaces in order to re-work the slags; the invariable reply was, "Wait." The deepest Burmese mines were only 116-150 ft. down, and the work was of the most irregular description. I wondered at the low, narrow galleries, which were driven at an angle of 40°. I never found any shafts, and had much trouble in accustoming the Burmese to vertical sinkings. The Khans are better miners than the Burmese.

In Morgaun, on the Endon (a small branch of the Irrawaddy), 12 geographical miles from Bhanmo, are the largest ruby mines of Upper Burmah, and, perhaps, of the world. They occur in a chain of 27 hills. The country rock is limestone, over 200 ft. thick, and covered with red clay. The limestone is everywhere fractured, and the crevices filled with sands, clay, quartz fragments, and weathered calcite. Out of these the rubies are obtained by washing, which is done by women. I used for the purpose round vessels of sheet-iron, 18 inches in diameter, with edges 3 inches high, pierced with numberless holes, like a sieve. I found principally rubies and sapphires; also emeralds, topaz, zircon, and spinel. The dark clay holds more sapphires, the light yellowish clay more rubies. The amount of precious stones here is exceedingly large. The work is easy. The crevices are opened from the surface, and followed. The narrower ones, formerly neglected, I widened by blasting. At a depth of 150 feet I was much troubled by the water. The King promised to order pumps and machinery, but took no further action, although the rubies and other gems increased in size and value with the depth. Small ruby mines of similar character are situated in a chain of hills above Ava and Medea, 16 miles from Mandalay. The Burmese told me that to the north the rubies were broken out of the granite and sandstone, but I did not visit the locality.

The Burmese miners are of two classes—soldiers and peasants. The soldiers have greater privileges than the others. The priests constitute the highest caste. The men in the mines receive $4·80, the women $2·88, and the children $1·92 (gold) per month. To each 12 men there is an under-foreman, who receives $7·20, and to each 4 under-foremen an overseer, who receives $10·80 to $14·20; over these are officers and the district governors, of whom 24 are paid mostly by tithes. The king has four ministers—Paka-mendji, minister of state; Lausi-mendji, of the interior; Yinanjong-mendji, of war; Kampa-mendji, of commerc. Under these are 12 woondooks. The sand of most of the streams, especially near Ava, carries much gold—one sees daily thousands of gold-washers—and Burmah is also rich in minerals of every other kind, particularly copper, iron, lead, silver, amber, jasper, rubies, sapphires, and platinum. Diamonds only have not yet been found. Most of the jasper comes from Mogaun, and is a highly-prized article among the Chinese, who come in large caravans for the purpose of barter.

GOLD IN NEW SOUTH WALES.

Sydney, Feb. 23.—The decrease in the yield for the past year has not been confined to any particular district; it is common to all. The Western gave 268,418 ounces, against 307,266 ounces for 1872: the Southern, 50,692 ounces, against 74,807 ounces; and the Northern, 9086 ounces, against 14,271 ounces. In the West, Stoney Creek is the only locality in which there has been an increase, and that only a trifling one. The largest decrease—Carcoar and Trunkey—exceeds 50 per cent. Gulgong and Mudgee still head the list in point of quantity, and we were hardly prepared to find that from Tambaroora came nearly the value of a quarter of a million sterling. The details are—

	1872.		1873.
Sofala ..... Ounces	10,765·15	.....Ounces	9,507·90
Bathurst	9,805·82		9,738·39
Hargraves and Windeyer	4,102·40		4,448·35
Tambaroora	80,592·46		62,834·48
Mudgee and Gulgong	140,538·81		131,124·77
Orange	7,660·01		5,895·93
Stoney Creek	4,405·70		5,285·11
Grenfell and Currajong	36,413·55		32,729·82
Carcoar and Trunkey	12,964·04		6,224·34
Forbes	—		628
Total	307,266		268,418

The most valuable gold was that from Tambaroora, 3*l.* 19*s.* 4*d.* per ounce; the poorest from Stoney Creek, 3*l.* 9*s.* 7*d.* per ounce. In the South there are two places which proved richer than in 1872—Adelong and Gundagai, against which the returns from Braidwood and Araluen, formerly at the head of the list, exhibit a falling off of 50 per cent., and to Tumberumba belongs the credit of producing the least valuable gold of any portion of the colony, assays proving it to be only worth 3*l.* 6*s.* 2*d.* per ounce. The comparative yield of the several diggings were—

	1872.		1873.
Goulburn ..... Ounces	1,827·10	.....Ounces	364·28
Braidwood	15,644·51		10,086·88
Adelong	17,042·41		21,607·78
Tumut	4,282·26		2,854·81
Tumberumba and Wagga Wagga	3,719·57		825·62
Araluen	20,000·59		7,836·58
Burrangong	8,475·48		3,815·42
Cooma	2,293·19		2,091·83
Kiandra	648·10		—
Gundagai	874·30		1,809·50
Total	74,807·81		50,692·77

The yield of the Northern mines is the lowest for years, while the value of the gold has reached a higher average than before. Nundle sent down only 2242·18 ounces, against 7238·97 ounces in 1872; Tamworth, 1169·82 ounces, against 1395·53 ounces; Scone, 45·70 ounces, against 68·59 ounces; Armidale, 1766·7 ounces, against 3587·24 ounces; Rocky River, 2242·18 ounces, against 2049·92 ounces. Total last year, 9086 ounces; total, 1872, 14,271 ounces. The quantities of gold delivered per escorts during each of the past ten years were—

1864 .....Ounces	316,430	1869 .....Ounces	224,382
1865	280,810	1870	198,664
1866	241,489	1871	296,928
1867	222,715	1872	392,186
1868	229,789	1873	327,197

TIN IN NEW SOUTH WALES.

The Correspondent of the *Times*, writing from Sydney (Feb. 23) says—"The tin smelters here are getting over their difficulties. The loss of tin in smelting has averaged in some of the works 3 per cent., and the quantity of tin produced exceeds 99 per cent. The block tin produced by the Cornish smelting works only averages 98½ in purity. There are some discrepances between the prices of Colonial, Straits, and Cornish tin which may be explained by a reference to the following opinion, given by the manager of one of the best known smelting works here:—

Mr. Carpenter, manager of the works, also informed us that he experienced another difficulty at the outset from the circumstance that the major portion of the colonial tin ore requires a different treatment from that which is bestowed upon the tin ores of Cornwall; while a good deal of trouble was met with at first, owing to the difficulty in getting proper reducing agents. In spite of all these drawbacks the average loss of tin in smelting at these works has been about 3 per cent., whilst the quality of the tin produced somewhat exceeds 99 per cent. When we come to consider that the block tin produced by the Cornish smelting works only averages in purity 98½ per cent., it seems strange that Australian tin should realise so low a figure in the English market. The Cornish block tin realises in the English market 5*l.* per ton over and above the price paid for Straits tin. Now, the last returns from England show that the price paid for Australian tin was some 4*l.* per ton less than that paid for the Straits tin, so that we have a difference of 9*l.* per ton as between the block and the Australian tins, and yet the latter is actually ½ per cent. richer than the former. This is a serious matter to companies who have invested large sums in developing tin land, and requires to be well looked into in order that it may be remedied. As far as we are concerned, and without going too closely into the matter, we should say that this low price is to be attributed to one or other of the following causes—either the adulteration of the metal, or its imperfect reduction. In this way tin of impure quality has reached the English market, and thus a doubtful character has been given to the Australian tin, and it can only be by removing all such doubts in future that our tin will be able to secure its intrinsic value. The company we are now alluding to are doing a good work in this way, and we have no doubt but that before long their brand will secure as high a price as any other in the English markets. The tin deposits obtained from the alluvial soil of this country, when reduced in a skilful manner, will produce the finest tin—tin in every way equal to that produced in any other country. In proof of this it need only be stated that the average produce of the Cornish ores is 65 per cent., and the quality of its tin ranges from 98·50 to 99, the latter being refined. The produce of the Australian ores averages 70 per cent., and the quality of its tin, as ascertained at these works, ranges from 99·99·50, and chemically pure. With this fact staring us in the face it certainly seems hard that our tin should be placed so low on the list of quotations."

GOLD-WASHING COMPANIES IN CALIFORNIA.

AMERICAN MINE.—This mine, near Sweetland, is one of the most extraordinary in that State; they use 1400 in. of water, which comes through a pipe 32 in. in diameter. The new tunnel, a very large one, is now in some 3000 ft., and the three shifts are driving it ahead at the rate of about 80 ft. per month. This tunnel is 250 ft. below the one now in use, which is out of grade. The new one, when driven some 2000 ft. further, will be low enough to work all of the extensive ground yet before them, and still have grade left. Water is plenty now, and both the Milton and Eureka Lake ditches are full. Water is selling at 8 and 10 cents an inch. The expenses incident to gravel mining may be better understood when we say that the recent deduction of from 16⅔ to 8 cents in the price of water causes a saving of about $150,000 a-year to the American Mine alone. The tunnel they are now running will cost in the neighbourhood of $200,000, but that will soon be all returned to them in $20 pieces when the flume is ready for washing. The ground generally is hard, and the cement is almost invulnerable—water not affecting it. But the ample falls that the hill near the Yuba affords break most of it up. The American has been constantly worked for ten years, though prospecting was began on Manzanita Hill 20 years ago. With a large amount of unworked ground yet ahead of them, they will require ten years more at their present immense scale to work it out.

NORTH AMERICA.—At Hepidam the Pilot Company is driving away under a high spur of rock to strike the same pitch-off lately found in the claim of their neighbour, the North America, owned by the English company, under the able management of Mr. Morgan, who, no doubt, had to contend with many ups and downs, existing more or less in every mining enterprise. The pitch-off of the bed rock into the hill, recently found by them in all their tunnels, shows now conclusively the immensely deeper, but of course richer, channel before them, to be verified as predicted by Mr. McLean, of Sweetland Creek, and Mr. Hendel, U.S. Deputy Mineral Surveyor, in his report to the Hon. Commissioner, R. W. Raymond, at Washington, on the mineral resources of Sierra county; and it is predicted that the time is not far distant when Mr. Morgan will be able to send to England returns of the mine which will be satisfactory to the stockholders as well as the manager, who surely deserves great credit for overcoming as he has all the unforeseen obtacles which presented themselves after he took charge of the mine.

BIRDSEYE CREEK.—The superintendent of the Birdseye Creek Claim writes to the shareholders in London that he cleared up $8000 in 20 days run from ground in the Neece and West Claim that had been wholly drifted and milled by the former owners. This result is a good one, and is an earnest of what may be expected when the good ground is passed through. The Pactolas Gold Mining Company, near Smartsville, have just made their opening wash-up, through their lower tunnel, which enables them to wash the ancient river channel which passes through that region, paying over $800 per day. When we remember that in opening a mine washing is done at such a great disadvantage, this result is truly wonderful. This tunnel has been some six years building, and adds another proof of the hidden wealth of our country.

HOLCOMBE VALLEY MINING DISTRICT.—The San Francisco papers state that great excitement prevails in Holcombe Valley. The entire San Bernardino range is metalliferous. The vast and sterile belt of country, extending from the Sierra, or San Bernardino, range to the Colorado, is more or less a treasure bed, and contains inexhaustible deposits of silver, lead, gold, and copper. Mines of extraordinary richness are already being worked with most gratifying success, from the Twenty-Nine Palms to Holcombe Valley. At Holcombe Valley, already famous for its gold mines, both quartz and placer, valuable discoveries are being made daily, and old ones being located and developed. Too little attention was heretofore given to the mineral resources of this region, and even deposits known to be rich have been passed over without notice. Witness the recent discoveries in Holcombe Valley. An inexhaustible supply of pine timber is at hand, with plenty of water, and excellent lumber can be procured at cheap rates. All these advantages warrant the assertion that quartz can be worked at a lower cost than in any other mining camp on this coast. Much good quartz is found, but it has not been worked upon, for the reason that the first rush to Holcombe was for gravel mines, very few giving any attention to quartz. In the San Jacinto range (divided from the San Bernardino by the famous San Gregorio Pass) very rich gold and silver quartz veins have just been discovered, while the latest "strike" of all, on the Yucipa, promises to be the most important. On the Amagouisa, in the extreme northern part of the county, silver, lead, and gold mines have already been worked. The Clark district mines are already famous, as are those of Inanpah, New York, and the Ord districts. The Temescal tin mines have a world-wide reputation: they are the richest on the continent. Very rich recent deposits of tin have also been found at a point in the prolongation of the Temescal range, about 12 miles south of the town of San Bernardino. Deep and extensive deposits of placer gold exist at Lytle Creek, and have been worked. In the portion of the county embraced in the Colorado desert borax, zinc, plumbago, sulphur, soda, and other minerals are known to exist in large quantities. Coal is said to have been found in the southern portion of the county, and an important discovery of quicksilver is just reported from Temescal.

UTAH SILVER MINING COMPANY.—It is currently reported that the Utah Mine, owned by the Utah Silver Mining Company (Limited), has struck a body of splendid ore, almost entirely free from iron, having passed the immense belt of pyrites, which has hitherto been a considerable drawback to the company. These separating works, completed a short time since, at a cost of about $30,000, will commence running as soon as the weather will permit, and if successful, will be one of the grandest monuments of enterprise and economy that have ever been built on the Western coast. The concentration works are contained in two huge structures, and consist of a Blake stone-breaker, Cornish rollers, six continuous self-feeding, and self-discharging jiggers, crushers, handles, sizing apparatus, water washing trenches, and furnaces. It is expected that 175 tons of ore can be run through daily, producing 41 tons of concentrated ore of 75 to 80 per cent. lead, and 20 to 25 ozs. of silver.—*San Francisco Weekly Stock Report.*

CORNISH PUMPING ENGINES.—The number of pumping-engines reported for March is 18. They have consumed 2189 tons of coal, and lifted 16·2 million tons of water 10 fms. high. The average duty of the whole is, therefore, 49,800,000 lbs., lifted 1 ft. high, by the consumption of 112 lbs. of coal. The following engines have exceeded the average duty:—

Crenver and Wheal Abraham—Sturt's 90 in. .....Millions	57·1
Ditto —Willyams's 70 in.	57·2
Dolcoath—85 in.	54·6
West Basset—Thomas's 60 in.	57·9
West Tolgus—Richard's 70 in.	52·6
West Wheal Seton—Harvey's 85 in.	57·8

BOSCASWELL DOWNS.—Mr. Clinton, of Truro, has been appointed the official liquidator for these mines, which he at once visited and gave instructions as to their management for the next three or four weeks. Tin at the surface is to be stamped and returned under the superintendence of Capt. Eddy. It is hoped that the mine may be sold in the course of three or four weeks. Should that sale result in the re-purchase of Boscaswell Downs by her present proprietary, the good old mine may, Phœnix-like, live once more and do better than ever. With tin at anything like a price (say, 70*l.*) it is said it can pay and ought to pay.

BALMYNHEAR MINE.—Mr. Pollard, auctioneer, Falmouth, offered this mine and materials as a "going concern," on Monday, and after a severe competition, it was knocked down to Messrs. F. W. Michell and Company, of Redruth. The mine is still at work on a limited scale, and is about paying its costs. The late company raised and sold about 20,000*l.* worth of tin. If worked with spirit it will no doubt become an extensive and profitable mine. It is one of those concerns started within the last two or three years which has unfortunately succumbed to the panic, although highly promising. In the southern part of the sett more than 3000*l.* worth of tin has been raised from the back of a lode, although the workings have not exceeded 10 fathoms in depth from the surface. It is intended to form a new company for the purpose of sinking the shafts, driving cross-cuts, and otherwise vigorously and effectively working the mine.

TRELYON CONSOLS.—At the auction held on Wednesday for selling this mine as a going concern, there were offers as follows:—Mr. Edward Winnan, 300*l.*; Mr. John Rowe, 350*l.*; Mr. Wm. Roberts, 400*l.*; Mr. G. Treweeke, 450*l.* There being no further offer, the reserved price was then put in by the auctioneers 750*l.*, at which the mine was bought in. It is still hoped that the machinery, &c., may be sold in its entirety by private contract.

LUCKY TRIBUTERS.—At one of the recent monthly settings at Levant Mine, St. Just, two young men took a bargain, on tribute, for two months, at the 210 fm. level, where there was an old abandoned work, formerly worked on tribute. After toiling and exploring a few days, they fell in with a good bunch of tin; and their tribute being at 17*s.* in 1*l.*, an excellent start was made, and the first month's pay realised to these two tributers a net sum of about 45*l.* between them; whilst this month will bring them, for their net gettings, about 55*l.*—say, in round numbers, about 80*l.*, the amount of their earnings in eight weeks, or about 40*l.* each. In other words, 20*l.* per man, each four-weeks month. The net wages earned by the underground miners in Levant, this month, is said to be nearly 4*l.* 10*s.* each, for four weeks, which may be considered as excellent pay.—*Penzance Tidings.*

THE PURSERSHIPS VACANT BY THE DEATH OF MR. HIGGS.—The strong probabilities are that Mr. Richard Boyns, Bank, St. Just, will be the future purser of North Levant; and that Mr. E. Trythall, so long the assistant of Mr. Higgs in his pursership, and so well versed in mine management and accounts, will be the purser of Providence and Spearne Moor. There are about six candidates for the purserships of the Providence Mines. This does not look as if they ought to be stopped!—*Cornish Telegraph.*

CORNISH MINE SHARE MARKET.—The excitement which a short time since pervaded the Share Market has to a great extent worn off, and a slight reaction setting in in the latter part of last week prices dropped back a little. They have again improved since, however, and the market now assumes a much firmer aspect, and although but a limited number of transactions have taken place, shares in many mines are very scarce and in good demand. The reaction was no doubt consequent on the drop in Straits tin and the weaker state of the tin market generally, which since has had a better appearance. The fortnight settling is an unusually heavy one, and the dealers having been engaged in preparing for it, this has no doubt tended to check business. The following are the mines chiefly dealt in:—Carn Brea shares declined to about 47½ to 50, at which they leave off firm; not a very heavy business has been transacted; at the meeting on Monday no dividend is expected. Cook's Kitchen shares have been dealt in and close pretty firm at about 9 to 10. There has been a fair business done in Dolcoath shares, which seem rather scarce, and close very firm and in good demand at 41 to 43. East Pool steady at 9½ to 10¼. Rosewall Hill shares, 5*s.* to 10. South Carn Brea shares a little dealt in at 2¾ to 2¾. South Condurrow keep at 3¼ to 3¼. There has been a good business transacted in South Crofty shares from 15 to 20; the price is now firmer, and leaves off about 19½ to 20¼. South Frances, since the meeting on Monday, when a call of 3*l.* per share was made, have been quiet at about 9 to 11. St. Ives Consols, 7 to 8; the recent improvement still holds good. Tincroft shares were fairly dealt in from 27 to 29 in the latter part of last

week; now leave off firmer at 29 to 31; the meeting is to be held on Monday next. A fair business has been done in West Basset shares at 9½ to 10, and shares seem pretty firm. West Frances firmer at 11 to 12, and there is still a good enquiry for these shares. West Seton not much dealt in at about 15. West Tolgus have advanced to 33, 35; at the meeting held yesterday a loss was shown on the two months' working of 895*l.*, to meet which a call of 30*s.* per share was made. Wheal Kitty (St. Agnes) more enquired for at 7¼ to 8¼. Wheal Basset called 5 to 10; Wheal Peevor shares, 3 to 4; Wheal Uny, 2 to 2½.—*West Briton.*

ECHOES FROM THE MINING MARKET.

Business in the Mining Market continues in an active state. Buying orders have been plentiful, and all the leading shares have participated in the increased enquiry. No further alteration, however, in the standards has yet been announced by the Cornish smelters, and the tone of the London tin market is, if anything, a trifle easier. It is believed by many, however, that we shall very soon see a further important advance in the metal, their calculations being based upon decreasing supplies from Australia and an increasing demand from America. The latter country was for years our best customer, but from various causes the demand fell off until our exports thither became of comparatively insignificant amount. It is now stated on authority that more orders have been received from this quarter during the past three weeks than for the previous year—certainly a rapid stride. Perhaps the present year may witness something like a revival of the old trade.

South Caradon, which has latterly been much neglected upon the market, has come into notice again, and investors appear to be picking up the shares whenever they offer a trifle below quotations. The latter for some time past have been almost nominal. At the meeting held last week a dividend of 512*l.* (1*l.* per share) was declared, and a fairly encouraging report read. The financial statement shows that during the quarter nearly 8000*l.* have been expended, while the credits have amounted to 8100*l.*, including 1218 tons of copper sold, at from 3*l.* 8*s.* 6*d.* to 18*l.* 7*s.* 6*d.* per ton. The profit on the quarter amounting only to 75*l.*, the balance required for the dividend as above has been taken from the credit balance brought forward from last account, thereby reducing the latter from 3193*l.* to 3037. Captain John Holman, the agent, states that only a better copper market is required to enable much increased profits to be made. The mine generally presents no change to notice. It is to be noted that the costs are charged to January only. The shares are 54 to 58.

A demand has existed for Prince of Wales shares, and from 5*s.* they have advanced to 10*s.* Thus, in the space of two or three days, the market value of the mine has just been doubled—from 3000*l.* to 6000*l.* The shares have been largely bought, many hundreds having changed hands. The costs at this mine have been recently materially reduced; there is now broken at surface 400*l.* worth of copper ore.

Trumpet Consols shares, which for many years gave steady dividends, and at one time were, we believe, quoted as high as 40*l.*, were lately dealt in at a few shillings. The mine since its commencement has sold tin to the value of 500,000*l.*, upon an outlay of only 23,000*l.* The profits divided amongst the shareholders have been 38,000*l.* A better tin market would help this mine immensely, and it should be a likely investment for those who make it a rule to pick up shares whenever they reach a nominal figure. More than one fortune has been realised in this way, whilst instances of large profits are very numerous. Doubtless many of our readers will remember East Caradons being sold at 1*s.* 6*d.*, and a few weeks after at 50*l.*, and the advances of West Basset from 10*s.* to 14*l.*, an l South Carn Brea from 6*d.* to 8*l.* are of two recent occurrence to have been yet forgotten. The Trumpet Consols district (Helston) is famous for its riches, as a production of over 4,000,000*l.* worth of tin will abundantly testify. The following have been its wealthiest mines—

	Paid in dividends.		Paid in dividends.
Bonth Wendron, about	£500,000	Penberthy Crofts	£40,000
Great Work	140,000	Great Wheal Vor	94,000
Godolphin	90,000	Trumpet Consols	38,000
Halamanning	800,000	East Lovell	37,000
Retallack	60,000		

JAMES H. CROFTS.

From Mr. ALFRED EDWARD COOKE, 76, Old Broad-street, London.—There has been a marked improvement in all tin shares, compared with the prices of last week. There is a paucity of stock in the market, and, as I predicted a few weeks ago, it is now difficult to obtain some shares at quoted prices, on account of the sudden demand which has set in. At the same time business has been restricted in consequence of the fortnightly settlement concluded on Wednesday, and the fixed holiday in the market yesterday (Friday, May 1.) With the exception of the advance above indicated the only feature to record is a rise in the prices of Bog, Prince of Wales, and Flagstaff. It may be remembered that in the Journal of the 21st ult. I called attention to the first-named mine shares when they were only 12*s.* 6*d.* each. They have now advanced to 20*s.*, 25*s.*, and in all probability will, ere long, reach par, as the mine is improving. The meeting of Roman Gravels passed off most satisfactorily, and an excellent report was presented by Capt. A. Waters, who promised to increase the monthly returns to 300 tons of lead by next August. The reaction in Tankerville shares affords an opportunity of buying to those who lately missed the chances. The mine is looking splendid, and the slight fall in price is entirely owing to the operations of adverse speculators, who have taken advantage of the quiet state of the market. It is possible that I may visit Glaisdale Whinstone Quarry during next week, therefore any communications respecting this property which may be addressed to me will be duly forwarded, and I will readily afford any information while in the neighbourhood.

MINING NOTABILIA.

[EXTRACTS FROM OUR MINING CORRESPONDENCE.]

NEW ROSARIO (Mexico).—It will be seen by the reports from the agents of this company that the new American reduction works are now finished, and would commence reducing ores about April 15. The tariff on which the company's ores are to be reduced at present varies in percentage, according to their greater or less richness, and is highly favourable on the better classes. For ores assaying 9 marcs per monton ($72) 50 per cent. of their value will be paid; for ores assaying 14 marcs per monton ($112), 69 per cent. of their value will be paid; for ores assaying 15 marcs per monton ($120), 70 per cent. of their value will be paid; for ores assaying 19 marcs per monton ($152), 74 per cent. of their value will be paid; for ores assaying over 19 marcs per monton, 75 to 80 per cent. of their value will be paid. The gold to be paid for in addition. When the mill is fully supplied with ores the price of reduction will be considerably diminished, and the company will get a larger percentage of their value. And as these large and productive lodes are found in the adjoining mines to increase much in richness as depth is attained this diminished percentage of cost on reducing the richer ores is very important; but the above rates contrast very favourably with the prices paid in other haciendas in the district. As soon as this American system of reduction has been thoroughly tested, so as to enable the directors to decide, from experience, on the comparative merits of the old and new systems, the company must have its own hacienda. With such a large and productive lode, which will soon be fully opened, so as to present many points of operation, the quantity of ore raised will be so great that the mere carriage of it to a distant hacienda will be an important item, in addition to the profit on the reduction, which any other hacienda must charge to remunerate them for their trouble and outlay.

DUNSLEY WHEAL PHŒNIX.—During the last few weeks the lode has been showing a considerable improvement, and the agent thinks that a continuation of this improvement for a few fathoms more may lead to a good discovery.

DRAKE WALLS.—The new set of 50 heads of stamps are now at work; they are erected on the best principle, and will get through much more work than ordinary Cornish stamps. The mine is now drained to the 90, and cleared east and west, and a great deal of tin ground is found laid open. Within two months it is expected that the 50 heads will be kept at work by night as well as by day, and large sales of tin made.

TYLLWYD MINE.—We see by the last reports from this mine that the new 40-ft. water-wheel erected on the Rheidol was connected with the pumps in the shaft on Saturday, and that the driving of the cross cut, impeded for a few days by surface water and stuff from the level, had been resumed, and as the drawing machine will also be in operation in a few days, there is nothing now to hinder the operations in view—the laying open the south lode at the 20 fm. level below adit, 33 from surface: this is now only a matter of a week or two, the lode having a slight underlay. This lode was intersected in the shaft at about 6 fathoms from surface, and as it has also been proved 30 fathoms westward to be worth from 1 to 1½ ton of lead ore per fathom in the shaft sunk at the month of the adit, there is every probability that it will be found still more remunerative in the cross-cut, and should this be the case there will be from 200 to 300 fathoms of proved ore ground immediately laid open to the west, and also the whole extent of lode eastward, which, running into the hill, must necessarily increase the reserves for every fathom driven. We have noticed that the shares in this mine, in sympathy with the general tone of the mining market, have recently been much depreciated; but we think it would be wise for shareholders to await patiently the result of the present operation; a good lode at the 20 fm. level should at once restore the shares to their proper value.

SOUTH WHEAL FRANCES.—This mine bids fair to pull through all its difficulties, which have been of more than an ordinary character, and the adventurers, who have been very plucky throughout, will yet, we believe, be fully rewarded for their courage and perseverance. The meeting held on Monday last was the most encouraging that has been held under the present management. The new lode, which has been cut since the last meeting, referred to in the report, appears to run into entirely new ground, and may turn out to be an exceedingly valuable addition to the mine. Every effort is still being made to reach the Great West Basset lode, which in West Basset itself is said to be worth at the present moment 120*l.* per fathom, just opposite South Frances driving; and if this is cut under favourable circumstances, South Frances will become one of the best mines in the county.

WHEAL PEEVOR.—This mine was started two years ago by Messrs. T. Pryor and F. W. Michell, upon the faith of an old plan in the possession of Mr. John Michael Willyams, which showed that former workers, 80 years ago, had stoped away a great deal of ground, and on which, moreover, a rich course of tin was marked in the bottom level. Sir F. M. Williams, M.P., and other well known gentlemen took a large interest in the concern, and the shares during the excitement period sprung up to 6*l.* The bottom of the mine was not reached so quickly as was anticipated. It was found necessary to cut down and re-form what is now the engine-shaft—Sir Frederick's—and calls in all have been made amounting to 4*l.* 5*s.* per share. These have been promptly paid, and there have been no relinquishments, but there was a time when in consequence of the depression such as the shares as came into the market were sold as low as 3*s.* 6*d.* The mine has just commenced to sell tin, and they are already 4*l.* 10*s.* To all appearance the plucky adventurers have a prize. They were judicious at the outset, and they have been persevering since. A 60 and a 24 in. engine have been erected, 16 heads of stamps put up, dressing floors are being laid out on the most approved plan; the shaft has been cut down and is sinking—the total expenditure being under 13,000*l.*—and the expectations raised by the old plan have been more than realised. In a few days the specially indicated spot will be reached, but already the lode in the bottom of the shaft (which is in the middle of a stope of the old workers 60 fathoms long) is worth 4*l.* per fathom, whilst the average yield of the tinstuff raised by the 24 tributors now employed is 80 lbs. a ton, or nearly double that of Dolcoath. The men have 10*s.* in the ton at a standard of 45*l.* Moreover, the mine is a light one to work. A branch of the county adit comes in at the 50, and the bottom level is but 48 fms. below, or, allowing for the underlie, between 60 and 70 fathoms only from surface. The county cross-course is not far off, and less than four strokes a minute is sufficient to keep the water under. Of water for dressing there is an abundance for extended operations.

MORVAH CONSOLS.—We are glad to hear that the work of providing the necessary machinery for the development of this property progresses, and that encouragement to press on is found in the improvement of the lode as it is followed down. A horse-whim is being prepared for the diagonal shaft, to draw stuff to grass; the stamps and dressing floors are receiving needful attention; the shaft is being sunk so that, as soon as possible, a level may be driven 10 fathoms under the adit to open up tin ground; and the principal lode has so much improved of late that samples of excellent tinstuff have been sent to the London offices for the inspection of the shareholders.

TREVARRACK.—Further information has been received of a very decisive and favourable character. There can be no doubt that this property, situated as it is in one of the richest districts in England, will prove to be very remunerative. It is well that the directors resolve to push down the shaft with all practical dispatch, for when they get to the depth at which Trencrom made its riches there is every reason to believe that rich deposits of tin will be found. A striking illustration of the depreciation in the value of shares is to be found here. The nominal price is only at the rate of 2800*l.* for the whole mine. Directly the investing public realise the exact position of affairs, as far as this property is concerned, they will eagerly purchase the stock; but, as is always the case when securities are depressed, there is but little inclination to deal in them, excepting by those who have private sources of information, and who are the parties we find making money by such speculations. It may be safely said, after taking an unprejudiced view of the various investments now offering, and the prices now ruling, that mines are decidedly the best, and there can be no doubt that shrewd men of business, who have never been in the habit of touching mining securities in the past, are now looking upon them with more than favour.

THE FIRE-CLAYS OF THE COAL MEASURES.

THE DARFIELD WORKS, NEAR BARNSLEY.

The valuable beds of fire-clay found in connection with our coal seams furnish undoubted evidence that the two are co-existent in all our coal fields. These under-clays, as they are termed, are found lying below each bed of coal, and from the particular tree-root found in them are unquestionably the soils of those vast and luxuriant forests that by pressure and subjection to the powerful rays of the sun were converted into coal. In South Wales, as well as in other districts, the beds of fire clay are looked upon as the certain accompaniments belonging to each seam of coal, whilst all of them contain the well-known fossil vegetable "stigmaria," to the exclusion of every other species of plant. In the Midland coal field, extending from Nottingham to Leeds, the beds of clay are found under the same conditions, but varying in quality. They are composed principally of silica and alumina, the finest descriptions giving from 60 to 70 per cent. of the former. For fusing, it has been found most advantageous to have about 63 per cent. of silica, with 26 per cent. of alumina. Bricks made from such a combination on being tested have been found to require a pressure of from 1200 to 1300 lbs. to the square inch to crush them.

The fire-clays found in some parts of the West Riding of Yorkshire are of a very good quality, the finished material in some instances showing a fineness of grain almost equal to porcelain. Such was the clay we found being raised at the extensive works of Mr. J. Gooddy, at Wombwell, near Barnsley, and adjoining the Darfield Main Colliery. The works, which cover an area of 25 acres, 5 acres being enclosed, find employment for nearly 300 persons. The clay is raised in a similar manner to coal, there being two shafts, each 9 feet in diameter, their depth being about 25 yards, with a seam of coal about 10 yards lower down. There is a 10-horse power engine for raising the clay, and a 20-horse power one pumping the water, with a second engine of 30-horse power for driving the varied machinery. The process of tempering the clay is a very interesting one, as is that of washing and moulding it, and is worth a brief notice, as the value of the articles made depends upon the purity of the clay, and its freedom from flinty or sandy matter. Great attention is paid to those objects, especially in the making of tiles, for which the works have a very high reputation in the metropolis and other places. A tramway from the shaft takes the clay to what are termed plungers, where it undergoes a first purifying process, by means of water, and the use of a barrow with zig-zag teeth, and after some further manipulation it is got into a putty-like consistency, the refuse being used for a second quantity of bricks, and the other for tiles and quarries. The tempered clay is then boiled, and the water evaporated. It is then put into slip-pans, with flues beneath them, and raised by a hoist, then on to large travelling pans, with powerful rollers 5 ft. in diameter and 18 in. in the face, and again ground. In the making of tiles, in particular, the clay passes by means of an endless chain, after undergoing the processes we have alluded to into a perforated travelling pan, and by means of an Archimedean screw it is taken to hoppers, where it is again put into pans, and receives a finishing touch so far as tempering is concerned. It is then taken in a solid mass to a piston and cylinder, to which the mould is attached, and the article being made is turned out in its clayey state, and removed to a drying shed. One of the drying sheds is 120 ft. by 70 ft., with hot water flues below, which dries the modelled clay by means of the perforations in the floor.

By an ingenious and simple operation introduced by Mr. Gooddy the waste steam from the boilers are made to do full duty in the drying sheds, and by which a saving of at least 30 tons of coal weekly is effected, as well as the wages of two men. There are 14 large kilns for tiles and bricks, with 14 fire-holes to each. One of the kilns will hold upwards of 2000 pipes 2 ft. long, and of varied diameters. The glass-like surface of the tiles appears to be the result of chemical action whilst they are in the kilns at the maximum heat. When they are in that state a quantity of coarse salt is thrown into the fires, and probably mixing with the iron contained to a small extent in the clay, gives a permanent varnish to the external as well as the internal surface of the pipe or tile. The pipes made at Darfield are of great tenacity, a 4-inch being capable of a resisting power of upwards of 200 lbs. to the square inch, and a 6-inch fully 120 lbs., as tested by hydraulic pressure. The pressed bricks made at Darfield are of a superior quality, and a good deal of the work is done by hand, as it is found that by such manipulation a better article is produced. Mr. Gooddy also turns out an immense number of ornamental garden tiles, for which there appears to be an unceasing demand.

The works contain a good many workshops, not the least interesting being the moulding one, and that in which the joints to the pipes are made and fixed on, which is done by hand with great dexterity. There are also carpenters' and blacksmiths' shops, with all the other essentials required in such a large establishment. As a great deal of the articles produced are sent to London and the South of England, there is a line of railway more than a mile in length from the centre of the works on to the Manchester and Sheffield. Another advantage possessed by Mr. Gooddy is that his establishment may be said to be "next door" to a large colliery, which we are glad to find is fast recovering from the disaster which occurred to it in the latter part of 1872.

Whether there is much room for improvement in the manufacture of our bricks and tiles we are not in a position to state; but, seeing that our clays stand about next in importance to our coal and iron industries, we certainly think that from a scientific point of view they are capable of repaying much greater attention than has yet been paid to them.

NEW LUBRICATOR.—Mr. J. LUNDY, of Leith, has patented a lubricating compound, to be used as a substitute for oil or grease in the lubrication of machine or machinery. The essential feature of this invention is the use and application of saponified or partially saponified oil or oils, or other fatty or resinous matters, singly or combined, by means of a caustic or other alkali, alkalies, or alkaline substances, in the form of an emulsion without separating therefrom the leys or glycerine, so as to form a lubricating fluid as a substitute for oil, grease, or any other lubricant at present employed for the machines or machinery: this improved lubricant having the advantage of being capable of being removed by means of hot or cold water, with or without the aid of soap or other detergent material from the fabrics or other articles being manufactured or treated, or of being capable of being removed from the machinery or woodwork, or from other parts of the manufactory which now become saturated with oil or grease, and thereby rendering them more liable to take fire.

STEAM-BOILERS.—Mr. J. OWEN, of Hanley, Stafford, boiler maker, has patented an invention, the object of which is to exclude the cold air from the furnaces and flues steam boilers during the time of firing, for the purpose of preventing the sudden contractions and strains of the plates, rivets, and stays, and the consequent injuries which take place in the present boilers by the difference of temperature when the fire doors are closed and when they are opened for firing, and also for the purpose of effecting economy of fuel. Each flue is provided with an ordinary damper, but instead of working it by hand he connects it by light chains, or chains and rods, guided by guide pulleys to its corresponding fire-door, so that when the fire door is opened for firing, the damper shall fall by its own weight and nearly or entirely shut the flue, thus preventing admission and circulation of cold external air which in practice is found to cause contractions and strains on the plates, rivets, and stays, and require frequent repairs. When the steam is blowing from the safety-valve from an excess of steam, and the fire-door is opened to diminish it, the damper by being lowered prevents the cold air from entering the furnace and flues, and allows the steam to diminish gradually without cooling the metal plates, and thereby effect economy of fuel.

THE METALLURGY OF BISMUTH.

M. A. Valenciennes, director of the Factory of Chemical and Pharmaceutical Products of the Central Pharmacy of France, at St. Denis, contributes a paper on this subject to *Les Mondes*. It is well known that the bismuth of commerce has been for a long time extracted from the mines of Saxe, and that the preparation of this metal was very simple, as it was only necessary to heat the ore in melting-pots to separate the pure bismuth from its gangue. The consumption of bismuth having greatly increased of late years, the production of the mines of Saxe became at last insufficient, and the price in the year 1869 reached 55 frs. the kilogramme, while 20 years ago it hardly fetched 11 frs. Then there appeared in the market a new ore of bismuth, originally from South America, and rich enough to be brought to Europe, in spite of the expense of transport. M. Dorvault, director of the Central Pharmacy of France, purchased, in 1869, a considerable quantity of ore from Bolivia, and entrusted me with its metallurgic treatment, in the Factory of Chemical and Pharmaceutical products, at St. Denis. This ore occurs in a vein of metal near the copper and silver mines situated in the chain of the Andes, close to the town of Azucar, in Bolivia. The proprietors of these mines have tried, but without success, to extract the bismuth upon the spot. The ore is brought on the backs of mules to the port of Cobija, whence it is embarked for England. It is composed of sulphide of bismuth, mixed with sulphides of iron and copper. Its gangue is mainly quartz; its richness in bismuth is very variable. In examining a medium sample coming from different lots, I have found the following proportions in a hundred parts:—

Bismuth	22·80	30·05
Iron	10·20	16·90
Copper	9·50	12·15
Sulphur	19·50	16·90

Antimony, lead, and silver are also present in small quantities. When the composition of this ore is compared with that of the samples described in treatises of mineralogy, a notable difference is observed. The latter come from the southern countries of Europe, and while they contain a great quantity of sulphide of lead, mixed with sulphides of copper and bismuth, or, perhaps, with sulphides of silver and bismuth, that of Bolivia, on the contrary, contains but very little lead and silver, and a much greater proportion of sulphides of iron and copper. From the point of view of bismuth intended for pharmaceutical purposes, this composition is interesting, for the metal obtained contains but very little lead, the iron and copper, with sulphur, separating readily by the dry process, while the lead is very difficult to eliminate. In order to avoid the transport of these rough ores to Europe with their gangue, an attempt was made to melt them on the spot, in a blast-furnace. Coal being scarce in those mountainous countries, the Indian miners employed a dried moss, with a very thick and resinous root. They thus obtained some bismuth, and some mattes formed of sulphides of bismuth, iron, and copper; but they were obliged to abandon this procedure, because of the great loss of bismuth. Among the samples bought by M. Dorvault were some of the mattes resulting from these operations; but they did not contain, upon the average, more than 18 or 20 per cent. of bismuth.

TREATMENT OF THE ORE.—The ore, powdered, is roasted at a red heat for 24 hours in a reverberatory furnace of which the bed is flat. A little coal-dust is thrown in from time to time, and the mass is frequently stirred with iron rabbles. The ore, oxydised by this operation, is then mixed with three per cent. of coal and a liquid composed of lime, soda, and fluor-spar. This mixture is introduced into a reverberatory furnace with a concave sole furnished with a tap-hole for running off the slag. At the commencement of the operation the damper is shut, in order that the reducing flame produced may assist the reaction of the coal upon the oxide of bismuth, and also to prevent the volatilisation of that oxide. During the operation, which lasts for two hours, the mass is frequently stirred. The register is then opened, and the fire is urged to a white heat. At the end of two more hours the mixture is perfectly liquid, and ready for drawing off into a casting ladle lined with earth; on taking out the stopper the melted mass flows out, and the ladle is raised and left alone until the matter has become quite cold. There are found in the ladle three distinct layers, which are divided according to their density. At the bottom, a layer of bismuth; above that, a matt composed of sulphides of bismuth and of copper; lastly, vitreous scoriæ containing the iron from the ore in a state of silicate. This bismuth, in a rough state, contains 2 per cent. of antimony and lead, and 2 per cent. of copper, besides a very slight portion of silver. When it is intended for the preparation of nitrate of bismuth, for use in pharmacy, it is only necessary to melt it to a red-heat with some nitre, in order to separate the antimony. The copper, lead, and silver are eliminated by the wet process. The mattes drawn out from the top of the layer of bismuth contained upon the average from 5 to 8 per cent. of bismuth. They were reduced to powder and calcined. The product of the calcination was afterwards smelted, the same result being obtained as in the first operation; the mattes from this second fusion gave no more than 1 or 2 per cent. of bismuth. It was impracticable by the dry method to more effectually separate the bismuth, because it formed an alloy with the copper. In order to exhaust these last workings the wet process had to be employed.

TREATMENT OF THE MELTED ORE.—This product, as we have said above, results from the first fusion of the ore, which separates it from the gangue. It is composed of the mixed sulphides of bismuth, of iron, and of copper. We have treated it by two methods. The first a direct method, consisted in treating the pulverised substance by iron, without any previous calcination. It was mixed with 12 per cent. of iron filings, 20 per cent. of vitreous scoriæ, and a small quantity of soda. The mixture was put into a reverberatory furnace, and after four hours submission to a white heat, the whole was in full fusion. It was run off into a ladle, and after it had become cold there was found a layer of bismuth, a matte composed of sulphide of iron and of copper, and some vitreous scoriæ. The bismuth thus obtained has less copper than that prepared by the previously described method, but it contained some antimony. This operation succeeded well, and was more expeditious than the first, but it had one considerable inconvenience, that the melted sulphide of iron attacked the sole of the furnace so strongly that it was impossible to continue the operation. The first-described method was, therefore, adopted. After the roasting the ore, mixed with a flux, was carried to the smelting furnace. The flux employed was the same as that used for the natural ore, except that a little silicious sand was thrown in to replace the quartz of the gangue. The same results were obtained as in the treatment of the native ore. It may be seen by the statement of these facts that the metallurgy of bismuth bears a certain analogy to that of lead, when the sulphide of bismuth from Bolivia is employed.

We have had occasion to examine a French ore containing some bismuth, at the same time that we were reducing the ore from America. This ore was found at St. Angel, near Ussel, in the department of La Corrèze, and was sent to me by M. Jules Brouginart. It consisted of wolfran and oxide of bismuth. After several ineffectual efforts to extract bismuth from this ore in the dry way, I had recourse to the following method. The ore was finely pulverised and digested, in two portions, with hydrochloric acid. The acid liquids were decanted, and one-half of the acid was neutralised by soda. Afterwards the solutions were poured into a large excess of water, when a precipitate of oxychloride of bismuth was found. This was washed, made into a paste with water, and left in contact with thin plates of iron. The bismuth thus reduced by cementation was dried and melted with an alkaline flux. This metal contained some traces of lead and silver. The portion of ore insoluble in the hydrochloric acid was ignited at a red-heat with nitrate of soda. The product exhausted by boiling water gave tungstate of soda.—*Iron.*

FOREIGN MINES.

DON PEDRO.—March 23: Since the 16th the works in hand have been continued favourably. The ore returned has again been taken from the Canoa and No. 6 and No. 8 shoots. Sinking continues to go on favourably, and the water, amounting to 16½ cubic feet a minute, is being kept out of the mine satisfactorily. —Stopes: Canoa: The lode generally is without change since last advised. The original line has produced a little box-work of fair quality. No. 6 shoot has been wrought on without alteration. In No. 8 shoot the stopes south of incline, below the 25, have improved in quality, and the box-work taken therefrom has been of a higher standard than any previously extracted from this section. Otherwise we have nothing new to report.

Telegram from Lisbon:—"Weighed 3800 oits.: estimate for March, 5500 oits."

ROSSA GRANDE.—March 22: Bahu: The lode in the 50 west continues to improve in size. In the 50 east I have no change to communicate at present. The lode in the winze (No. 2), sinking below the 10 west is 1 ft. 6 in. wide, of good quality. The lode in the stopes in back of the 28 east has improved in size since my last, being at date 5 ft. 6 in. wide. In the stopes in the bottom of this level the lode is 4 ft. 6 in. wide, producing good stamping work. The lode in the stopes in the bottom of the 10 west is producing fair quality mineral.—Cachoeira: We are making fair progress towards draining the water in this mine, and I trust by the end of the month we shall be able to resume operations in the 20 east.—Third Formation: This lode presents a better appearance at present than when last reported on, and is easily excavated, the output averaging 1 ton a day for every man employed quarrying.

EBERHARDT AND AURORA.—The directors have received information by cable of final judgment in favour of the company in the Blasdel suit for $300. The mill was stopped, but would start again on May 1.

RICHMOND CONSOLIDATED.—Cablegram from the mine at Eureka Nevada:—"Hall, London.—Week's run, one furnace, $16,000.—M'Gee."

FRONTINO AND BOLIVIA.—The directors have received their advices, accompanied by 492¼ ozs. of gold dust, valued at 1139l. 4s.

MINERAL HILL (Silver).—Mr. Oakes, April 6: We have raised during the week 50 tons of an average grade of $45 per ton at a mine's cost, including stores and sorting waste dumps of $1001·50

UTAH (Silver-Lead).—J. Longmaid, April 5: The weather still continues unfavourable, and almost daily falls of snow, with severe frosts at night; it has been freezing nearly all day to-day in the shade. Taking the average temperature, it is 20° warmer than a month ago. In the plains around Salt Lake City the grass is quite green and the farmers busy sowing grain, so I hope a few days more will bring us milder weather.—Mine: In stoping away some galena last week in Buel Tunnel I discovered a small string of carbonate of lead and put the men to drive on it; it has enlarged to over 3 ft. of ore, but unfortunately it is very shallow, and in driving forward south-west on the course of it we have to cut gravel. The men are now engaged in following it in depth. It dips at about 15° below the horizon. Abont 30 tons have been laid open, with a prospect of the bunch extending in depth.—Pyrites: I have an order for a carload—say, 10 tons—and the people state they will require about 60 tons per month if the quality suits them. You will be surprised to learn that we have had some trouble to find 10 tons sufficiently clean to ship, nearly all being so intimately mixed with quartz: from these 10 tons we have had to pick out 4 or 5 tons that contained too much quartz.—Smelting: From the foregoing remarks it will be evident that too much reliance must not be placed on the employment of large quantities of pyrites for fluxing the galenas. On further consideration my opinion is that it will be safer not to attempt smelting at present.

SWEETLAND CREEK (Gold).—G. D. McLean, March 29: Washed through the old tunnel last night and to-day. Driving main tunnel ahead through hard rock.

March 30: Washed through the old tunnel last night, and the new one by day. Two powder drifts are going day and night.

March 31: Washed five hours through each tunnel. Washed through the old tunnel last night. No change in cuts or powder drifts.

April 1: Washed and worked as above. Received two loads of powder (384 kegs) from San Francisco, *viâ* Wheatlane. Rock still hard in the tunnels, and progress slow. Hard work to keep cuts up with the washing, owing to low banks.

April 2: Washed through the new tunnel. Ditches breaking and water inadequate and irregular. Still there was never a better prospect for good water season.

April 3: Washed in the forenoon through the old tunnel, and in the afternoon through the new tunnel. Main tunnel cuts and powder drifts constantly going.

April 27: The directors have this day received the following telegram from their superintendent Mr. G. D. McLean, as follows:—We have cleaned up after a run of 59 days. The gross returns are $24,700. The running expenses and tunnel cost are $14,000. The profit is $10,500. I send you a remittance of $10,500. This run has been made chiefly on side dirt.

BIRDSEYE CREEK (Gold).—G. S. Powers, April 7: I have now stoped to mine 515 ozs. of gold, the result of last month's washing. I hope you will not get alarmed at the light returns, for I am not considering the many drawbacks which I have had. I have had the shaft filled twice in Neece claim from the branch settling from the former workings, consequently I have been able to wash but very little from the bottom ground. There is a prospect that the claims will redeem themselves this month. The Peachey Tunnel is working splendidly so far from first place, having already run something over 60 ft. since the 20th ult. The shaft was started the 1st inst., and is now down nearly 40 ft.; we are having a large amount of surface water to contend with, which keeps the work back, otherwise we could make much faster headway. I hope to get machinery set for hoisting by the 20th inst., after which I hope to make better progress. I have been very busy in getting men and supplies for tunnel and shaft, with the five claims to look after. I have not written as often as I otherwise should. I hope to get mint returns in a few days, and shall then forward statement of last month's expense.

TOLIMA.—Owing to the manager's absence at Bogota at the departure of the mail received in London on Wednesday, the dispatch of the accounts and cost-sheet for the month of February was unavoidably postponed until the mid-monthly mail. The invoice for the February workings has, however, come forward, and contains the following particulars:—"42 tons of ore consigned, assay value $25,305 (4217l.) sterling." This estimate of the consignment makes the February returns 1000l. higher than the largest yet reported.

CHICAGO (Silver).—J. H. Latey, April 11: The furnace is running along smoothly as usual, there is, however, more copper in the ore than we like. The ore body in the main incline is very good in quality, but it is not as large as common; it is now about 2½ ft. thick by (say) 6 ft. wide. The left drift shows a good face of ore full width of shaft, and about 8 ft. thick. I took a piece of galena out of the face in this drift and carried it to the furnace for assay. I enclose certificate: 72½ per cent. lead 83 ozs. silver per ton of 2000 lbs., while the whole vein was of same grade.

MALPASO (Gold Washing).—C. R. Clarke, March 18: Yesterday we cleaned up 600 ft. of sluice, got out 51 ozs. 8 dwts. retorted gold: it seems small, but taking into consideration the kind of dirt that we have been washing, it is very good. During the past month we have not made very much progress with our banks, on account of the scarcity of water; if the water had held out we should by this time have been through the wastes, at present our water is so low that we can hardly do anything with it. The hard gravel, as I explained in a former letter, is now pitching into the hill, what the result will be can only be told when the ground is washed away. In our sluice cut we have struck a large boulder, an indication, I think, that the bed-rock is near. The general agent reports that he is actively engaged in the matter of the extra water supply, full particulars of the progress of which will be sent by the intermediate mail.

RICA (Gold Washing).—March 13: By accompanying water account you will see that for some time past the water has been very short. Mr. Skinner is now enlarging the reservoir, has 21 peons at work on it, and expects to increase its capacity about one-half; will finish in two or three weeks. At the mines everything is in good condition. The bed-rock is still pitching into the hill, and while that continues there are always hopes of the discovery of richer gravel. The banks are now very high, so that the progress with bed-rock cut is very slow.

MALABAR.—G. B. O'Reilly: Report on the mine and acequia from Feb. 20 to March 19: As before reported, our 1000 ft. of 18-in. pipe has been completed nearly two months, and is now on the ground, where it is to be permanently located as soon as the pipe is ready. This latter we are pleased to say, although the first cargo only reached here on the 7th of the present month, is now being put together very rapidly, and will not prove any serious obstacle to our early opening. We have three pair of riveters at work by day; the process cannot be followed at night with any advantage. In all 1200 ft. have been put together, of which 1000 ft. is in the mine well advanced, and 200 ft. still in Honda, or on the way. Our acequia, or ditch, when settled in a few months is of the capacity of 3000 in., enough to run two mines on a larger scale than Sweetland. The cost (as per analysis sent) will be found to be as moderate as it has been possible to make it consistent with thoroughly good solid work. It secures us the free and perpetual use of 2500 in. of water at all seasons, irrespective of rain or drought: and without any further outlay of capital 2500 inches of water at the lowest figure at which it is sold to any mine in California would cost per month of 24 working days $6000, or two months more than the whole cost of our acequia. Should our gravel average 10 cents per cubic yard (less than 1 grain weight of gold per ton) we can make large profits: even half this figure would leave us a good margin providing there is no pipe-clay, cement, or other hidden difficulties to contend with. Our water season will soon be continuous, and when we are justified in so doing we can open another mine on the north side of the ridge, without any outlay for acequia, as 3000 in. of water is really more than we require for a 5-ft. sluice, 1800 ft. being amply adequate for this size. It now only remains to be seen whether with all these advantages of water under 200 ft. pressure, and acting against high banks through two powerful monitors, we can make the ground pay, as its appearance leads us to anticipate with confidence it will. The property if situated in California would be considered of immense value for mining purposes, and hundreds of enterprising men would compete for its possession, and pay 10 cents an inch for water to work it on the chance of its paying.

BLUE TENT CONSOLIDATED HYDRAULIC GOLD MINES OF CALIFORNIA.—C. W. Tozer, April 9: Since date of my last, 24th ult., I have to report that everything at the mine has gone on very satisfactorily, except that until yesterday, when the blockade of snow on South Yuba Canal to the Tent was raised, we have had an inadequate supply of water for full operation. We now have plenty—all we are filled up to use; and, as the weather is warm and favourable, shall make the best possible use of both weather and water. Yesterday the superintendent of the South Yuba Canal again assured me he would be able to keep up our supply of water until late in the fall—probably until the middle of November. I am much pleased to be able to inform you that on the 6th inst. we turned on the water at South Yuba Claim through our lately-completed bed-rock tunnel, and that flumes, dumps, undercurrents, and all work most perfectly. We have washed away the debris accumulated before the bank at point where we have driven powder drift, and shall to-morrow put off blast of 250 kegs of powder. We have paid contractors for Bul rock tunnel in full, the balance due them upon completion being $2545·24. The tunnel was completed at date of my last cable to you, and we have made the greatest possible haste to get it (the claim) in running order. The rock continued hard up to a point almost immediately beneath the shaft, and then turned so soft that we were required to timber the shaft before commencing washing through it. This occasioned some delay, as we had not anticipated the necessity of timbering the shaft. After the first few hours run at South Yuba gold was to be seen in sluices and under-currents; and as now, for the first time since the grade at Gopher Point was exhausted, the Blue Tent property can be washed from the bed rock in the channel, we may most confidently look for good returns from this washing, especially so if the water season is protracted to give us five, six, or seven months use of water in what is left of the season; and of this I have no doubt. We still have some obstacles to overcome at South Yuba before we can reach the full reward for the large expenditure there (as Mr. Bowe, perhaps, will better explain)—we must enlarge the face of the bank by blasting down both the right and left hand corners, thus to enable us to wash back further across, or say into the centre of the channel. This work, please understand, will all pay, and I think largely, as it proceeds; but not in comparison with the pay we are certain to obtain when once we are able to get a "clean up" from the centre of the Blue lead channel.

HOLCOMBE VALLEY (Gold).—J. Haley, April 1: The last letter received from you was dated January 24, no doubt there are others in transit, but owing to the snow blockade they have not reached here yet. Owing to the condition of the roads we did not get our pump and other materials in until last week. As soon as the pump arrived we set it to work, but found there was more water than it could control with the present steam at surface, so we are at work setting up one of the boilers that was on the flat, which will be ready to work in a few days. The present water line is within 70 ft. of the surface, leaving nearly all our year's work under water: this, however, is nearly all surface water, and in the course of a month or two will drain itself. The 60 ft. level is in 100 ft., showing good ore all along the bottom of the shaft, and as far up as we have stoped. We only worked a few hands in the mine last month, and raised 100 tons of ore. As soon as the boiler is set, and the water out, we will have to increase the force. We started up the mill to day, and hope there will be no further interruption; the plates look well, and I am looking forward to a satisfactory clean up, which will be the last of the month. The last clean-up is in the hands of the bankers to be forwarded to the mint: its value will appear in next month's accounts. On the 9th of this month I went down to the Mojave river to see about the freight that was detained there, and from there to Los angeles to see Mr. Ward; he paid the amount due on his shares, which you will find credited in this month's account. I am saving the sulphides by hand process; it is slow and costly, and as soon as I have accumulated 5 tons I will ship them to San Francisco, and have them worked. This will enable us to come at their real value.

NEW ROSARIO (Mexico).—M. V. Cumins, March 28: Since the departure of the last packet I have been to Pachuca, and seen Mr. Lonergan, the director of the American hacienda. He expressed a great desire to have our custom, and assurred me that his firm would offer terms that would prove acceptable to the company. He was daily expecting his letter of instructions, and until its receipt could not definitely fix the price at which he could reduce our ores, nor treat for the purchase of them on terms that might be satisfactory. I understood from him that in all probability $25 per monton (3l. 6s. 8d. per ton), quicksilver included, would be charged for the reduction until the mill could be fully supplied with ores, when the price would be considerably reduced. Both Mr. Fountain and Mr. Lonergan told me that the loss on the assay value would not exceed 15 per cent., and would be even less with docile ores. The mill will commence working about the 15th proximo. When ready I shall send 500 cargas on trial, and hope to let you know the result when next I write you. The quantity of ores added to our stock is 103 cargas.—Providencia Mine: San Manuel Level: The driving of this end continues most satisfactory, the continuation of the quemazon on the eastern side enabling the men to drive rapidly; we shall reach the junction in about 26½ to 27 varas. The lode standing at the side of the quemazon shows ore of excellent quality and appears to be improving the further we advance. We shall continue sinking the shaft on Monday.—San Guillermo: There is no change whatever to note in this end.—San Juan: Here the stopes continue as good as ever, and are yielding good payable ore. Enclosed in Mr. Cumins's report is an offer from the managing director of the American Reduction Works, at Pachuca, to purchase this company's ores, assaying from 9 to 14 mares per monton, at from 50 to 60 per cent. of their value, and those assaying from 15 mares per monton upwards at from 70 to 80 per cent. of their value. And as ores from the present shallow levels average 12 mares per monton, the terms above mentioned may be estimated to give this company a net profit of about 5l. per ton on ores of that quality, and a larger profit in an increased ratio on richer ores. The directors are of opinion that even better terms will in a short time be arranged by their manager, and have sent him discretionary powers in the matter.

— John Skewis, March 27: Providencia Mine, San Manuel End: This end is driven from shaft about 53½ varas, and is improving as we go on. Every day it is looking better, and we may expect it to continue improving as we go further on towards the junction. This is one of the kindliest ends that I ever saw driven in this country, and we are driving to one of the best junctions. The Acosta lode is a very wide one; in places it runs from 4 to 6 varas in width; and the Providencia lode, which we know is the great Carretera lode, is much wider, varying from 6 to 8 varas (equal to nearly 3 to 4 fathoms); so, with content, I should say that is a lode wide enough.—San Gwillermo End North: This end is driven from shaft about 51 varas, and I do not see much alteration in it; it looks much the same as when I wrote you last. One thing in our favour is that the ground is not very hard for driving, so we shall be able to get under the Palma shaft much quicker, where I should think we ought to have another good bunch of ore, as the lode gives every appearance of it at surface.—San Juan Level: The stopes in this level are looking much the same. The men are breaking away a good lot of stuff, and we now find that our new malacate is wanted, as we have got as much or more than one malacate can do to keep the stuff away, and I hope before long to have more ore than we can raise with our two malacates. I think we shall be able to commence sinking the shaft on Monday. I can only say that the Providencia is one of the most promising mines I ever saw, and I am happy to add that everything is turning out according to my expectations.

WESTERN ANDES.—The directors have advices from which the following is an extract:—Cost and return for February: Cost, $12,499; return, $20,092: profit, 1657l. The superintendent states that February being a short month the returns are not so large as they otherwise would have been. The establishment is reported to be in first-rate condition with every prospect of improving still more. A lode has been struck at Sarsaparilla 1 ft. wide, of good mineral, being an entirely new discovery, and several points in the company's property were looking very encouraging for further discoveries.

I. X. L. (Gold and Silver).—Lewis Chalmers, April 6: The north drift was driven 13 ft., making 190 ft. from cross-cut, and 180 ft. from being under the old Bonanza. Nothing was done in the south drift; some of the men framing timbers, others cutting and getting in wood.

MENZENBERG.—R. K. Roskilley, April 25: We are pushing on the sinking of Dickins's engine shaft below the 34 with energy, and judging from the character of the ground the men here are making fair progress; the lode here is 4 ft. wide, and yielding some very fine stones of grey copper ore, with a promising appearance.

LINARES.—April 22: The lode in the 85, west of Crosby's shaft, is disordered and poor. In the 85, west of Crosby's cross-cut, the lode is very open, and yields 1 ton of ore per fathom. The lode in the 75, west of Crosby's shaft, is unproductive, and getting very small. The 75, west of San Francisco shaft, yields 1½ ton of ore per fathom. In the 75, east of San Francisco shaft, the lode has fallen off in value during the past fortnight, and is now unproductive. The ground in the 65, west of San Francisco shaft, is hard for driving. The lode in the 65, west of San Francisco, has improved, and is now worth 1 ton per fm. The 55, east of this shaft, also produces 1 ton per fathom. At Warne's engine-shaft, sinking below the 85, the men are working regularly, and making moderate progress. No. 188 winze, below the 45, has fallen off a little both in size and value, now yielding 1 ton per fathom.—Los Quinientos Mine: The end in the 80, west of Taylor's engine-shaft, is hard and poor. The 65 is strong and open, yielding ¼ ton per fathom. The 55, west of Cox's, continues unproductive. In the 45, west of Cox's, the lode is small, yielding ½ ton per fathom. The 80, east of Taylor's, is unproductive. The same remark applies to the 65 east. In the 55, east of Addis's shaft, there is a small branch producing a little ore. The lode in the 55, west of San Carlos shaft, is regular, consisting of quartz and lead ore. The lode in the 65, west of San Carlos shaft, is strong and open, composed of calcareous spar and lead ore, yielding of the latter 3 tons per fathom. The lode in the 65, east of San Carlos, is large and strong, yielding occasionally stones of ore. The 55, east of Judd's shaft, produces 1½ ton per fathom; this is opening good tribute ground. The 45, east of Judd's, is also worth 1½ ton per fathom. The lode in the 32, east of Judd's, has very much improved during the past week, and is now worth 1 ton per fm. —Shafts and Winzes: San Carlos shaft, sinking below the 66, is in hard ground; progress is consequently slow. Judd's shaft is holed to the 55. There is no change to report at Addis's shaft, below the 55. The lode in Adrien's winze is small, yielding a little ore. In Pedro's winze, below the 32, the lode is compact and solid, yielding 1½ ton of ore per fathom. Ortego's winze, sinking below the 55, yields 1 ton per fathom. The lode is large, and the ground favourable for sinking through.

FORTUNA.—April 21: Canada Incosa: In the 110, west of Henty's shaft, the ground continues very hard and the lode small. The lode in the 100, west of Judd's shaft, is disordered, and of no value. The 80 cross-cut, south of Henty's, continues without change. The lode in the 80, west of Kennedy's shaft, is large, spotted with lead ore, of which it yields ½ ton per fathom. In the 90, west of Lowndes' shart, the lode is very small, and the ground hard. The 90, east of Lowndes', yields ½ ton per fathom; this has diminished in size and value. The 80, east of Seguero's shaft, is suspended for want of air until we hole Belmontez' winze, which we expect to do very shortly. Manuel's winze below the 80 yields 1 ton per fathom; the lode is neither so compact nor so rich as it has been. —Los Salidos: The 110, west of San Carlos shaft, yields 2 tons per fathom; this has improved since last report. The 90, west of San Carlos shaft, contains only a few small strings of lead, and the ground is hard. The 120, east of Morris's engine-shaft, is holed to Garido's winze. The 110, east of Cox's shaft, continues without alteration. The 100, east of San Miguel shaft, yields 1 ton per fathom; the lode is improving in value. The 35, west of Palgrave's shaft, on the north lode, yields ½ ton per fathom; this is at present disordered by a bar of hard ground. The 45, west of Palgrave's engine shaft, yields ½ ton per fathom; the lode is small at present, but we expect an improvement shortly. The lode in the 45, east of Palgrave's, is very compact, yielding 3 tons of ore per fathom. In the 25, east of Footway shaft, the ground is hard; we shall probably get no improvement until Pallas's shaft is holed. The 35, west of Swaffield's, produces 3 tons of ore per fathom —a very rich lode. Toledo's winze below the 100 yields 2 tons per fathom—a well-defined lode. Adolfo's winze below the 35 is also worth 2 tons per fathom; the lode maintains its size, and we are making good progress in sinking. The lode in Serrano's winze below the 100 is large, but contains very little lead. Conde's winze below the 35 yields 3 tons of ore per fathom; this is situated west of Palgrave's engine-shaft, in advance of the 45 end, and sinking in very promising ground.

ALAMILLOS.—April 22: The lode in the 60, west of San Rafael shaft, is more open, and has a better appearance than it had, yielding ½ ton of ore per fathom. The 50, west of San Francisco shaft, yields ½ ton per fathom; lode large and strong. The ground in the 50 cross-cut, north of Magdalena footway shaft, is exceedingly hard. The 85, east of Taylor's, yields ½ ton per fathom; the lode has failed entirely in value, but is again improving. The lode in the 35, west of Taylor's, is large, and spotted with lead. In the 50, east of San Victor shaft, the lode is small and unproductive. The main slide is in the 50 cross-cut, south of San Victor shaft, which makes it tolerably easy for driving in. The 50, north of San Carlos, is being driven to meet the last-named end. The lode in the 20, west of San Carlos shaft, is small and poor. The 20, west of Addis's cross cut, yields ½ ton per fathom; lode small and compact. The 50, east of Judd's engine shaft, is worth 1 ton per fathom; the lode has failed in the upper part of the level. In the 60, east of Judd's, the lode is small, and the ground hard. The 40, east of air-shaft, is still being driven north in the cross-course to intersect the eastern part of the lode. The 30, east of air-shaft, yields 1½ ton per fathom; this is now carrying all the lode, which is of a productive character. The 50, east of Crosby's shaft, shows no improvement. The 50, west of Crosby's cross-cut, yields ¼ ton per fathom; this is looking somewhat better. The lode in the 20, west of Swaffield's shaft, is at present disordered by cross-heads. In the 30, east of Swaffield's shaft, the lode has failed, but we expect it will improve again shortly. The 30, west of Swaffield's shaft, yields ½ ton per fathom.—Shafts and Winzes: In Judd's engine-shaft, sinking below the 60, the ground continues very hard. Alvarez' winze has been holed to the 15, and Fernandez' winze to the 30; the latter was worth 1½ ton per fm. Miguel's winze, below the 65, has become unproductive. Melchor's winze, below the 20, is going down in a regular and promising lode, worth 2 tons per fathom. The sinking of Rafael's winze below the 75, which is in advance of the 85, east of Taylor's shaft, was resumed a few days since.

BENSBERG.—C. Craze, April 25: Victoria Shaft: The part of the lode being carried in this shaft will produce 3 tons of lead ore per fathom, but our speed in sinking is not so good as I could wish, owing to the inadaptation of the present pumps, which continue to give us a great deal of trouble.—New Shaft: The lode in the end driving east of this shaft continues to look well, and is worth 25l. per fathom. The end driving west of this shaft is of about the same value as last reported—20l. per fathom. There being no change for the better in the level driving west of open-cast since my last, we have now put the men to rise a stope in the back of the level, where the lode is worth 15l. per fathom. The other parts of the mine are much the same as last reported, and the stopes are producing about the same quantity of ore for dressing.

SCOTTISH AUSTRALIAN.—The report shows that the balance of profit at the credit of "general revenue account" is 18,878l., which it is recommended to appropriate in the following manner:—9562l. to the payment of a dividend at the rate of 15 per cent. per annum, and 2000l. to the "Colliery Reserve Fund" (raising it to 5000l.), and carrying forward 1315l.

We hear that the Exchequer shaft has struck the ledge. It is said that a body of rich ore has been struck in the drift.—*Alpine Chronicle*, March 28.

WHEAL TREGOSS TIN MINING COMPANY.

A meeting of shareholders was held at the Green Dragon Tavern, Bishopsgate-street, on Tuesday,—Mr. WHITEFIELD in the chair.

The agent's report, which was read to the meeting, stated that

Since the commencement of this company we have sunk the engine-shaft from the 22 to the 32, fixed plunger-lift from the 22 to the surface, cut plat at the 32, and driven cross-cut from shaft to intersect King's lode, which we had some trouble to find, it having been heaved 7 fms. by a cross-course, and at the point we intersected it the lode was found to be disordered by the cross course, but nevertheless to contain some good work for tin. The lode was very productive at the 22, and about 2000l. worth of tin was taken from it, and from the appearances I think it will be found equally rich at the 32, but as yet only a few feet have been driven on the lode. At this level it has been cut into about 6 ft., but not through it yet. At the 22 it was 20 ft. wide. In the 22 a cross-cut has been driven north 20 fms. to intersect the north lode, which is 4 ft. wide, and is rich for tin, but not much has been done for want of ventilation. I would advice the whim-shaft to be sunk from the 22 to the 32, when it would well ventilate the mine, and also lay open the north lode at both levels. There is a large and productive iron lode in the set, about 30 fms. south of the engine-shaft, which might be readily sold with advantage to an iron company, and the proceeds well laid out in laying open the tin department, and bringing the mine into a good dividend-paying state. The 32 heads of stamps are in good working order, and the engine and dressing floors are all complete. I consider it most important to sink the whim-shaft mentioned above, when I think the mine will pay fair profits, the tin lodes being both large and productive.—T. PARKYN.

The following gentlemen were unanimously elected directors of the company:—Major Munro, Messrs. John Dickson, H. F. Whitefield, Jonathan Stephens, and (subject to his acceptance of the office) Ralph Hetherington.

It was resolved to adjourn the further consideration of the company's affairs until they had been investigated and reported on by the directors.

GWYDYR PARK CONSOLIDATED MINING COMPANY.—At the extraordinary general meeting of shareholders, held at the office, St. Michael's House, on Thursday, Mr. P. CRUIKSHANK in the chair, the Chairman stated that of the 12,000 preference shares offered to the shareholders at 6s. each, 315 only had been taken up, and as the whole of the capital of the company had been expended there was no alternative but to appoint liquidators, offer the mine and machinery for sale, and wind-up the company. It was then resolved:—1. "That the Gwydyr Park Consolidated Mining Company (Limited) be wound-up voluntarily.—2. That Messrs. P. Cruikshank and John Hitchins be appointed liquidators at a reasonable remuneration, with full power to dispose of the mine setts, machinery and effects in the way they may think best for the interest of the shareholders.—3. That an extraordinary general meeting of the shareholders be held on May 21 to confirm the above resolutions." A vote of thanks to the Chairman terminated the proceedings.

FAIRBAIRN ENGINEERING COMPANY.—At the meeting on Monday the report and accounts were adopted, and a proposal for a friendly investigation into the affairs of the company was withdrawn in consequence of the Chairman (Mr. Thomas Fairbairn) stating that if it passed it would be regarded as a vote of censure. The profits for the year, as shown in the report, amounted to only 2420l., making, with 1737l. brought forward from last year, an available balance of 4157l., and as 2302l. was distributed in October by way of interest there is not sufficient for a further dividend.

STANDARD LIFE ASSURANCE COMPANY.—At the 48th annual general meeting of shareholders, held in Edinburgh on Wednesday, the following results for the year ending Nov. 15, 1873, were reported:—2137 new proposals for assurance were received for 1,459,240l.; 1892 proposals were accepted, assuring 1,218,619l.; the total existing assurances at Nov. 15, 1873, amounted to 17,577,090l.; the claims by death during the year amounted, exclusive of bonus additions, to 351,840l.; annual revenue, 724,300l.; invested funds, 4,580,667l.

[For remainder of Meetings see to-day's Supplement.]

SOCIETY OF ENGINEERS.—At the meeting, on Monday, a paper will be read on "Modern Systems of Generating Steam," by Mr. N. J. Suckling.

THE TIN TRADE IN CORNWALL.—Some short time since, Mr. W. C. BORLASE, M.A., F.S.A., delivered a highly interesting lecture at the Mechanics' Institute, St. Just-in-Penwith, embodying a historical sketch of the Tin Trade in Cornwall from the earliest period to the present day, and owing to the encouraging reception which it obtained it has been printed with additional matter and notes, and the necessary wood engravings in a handsome pamphlet of 70 pages (published by M. Bowden and Son, George-street, Plymouth). The lecture contains an outline, sufficiently extensive for the general reader, of all that is known on the subject, whilst the admirable manner in which the notes are given will enable those wishing to do so to pursue the study of the questions raised with the utmost facility and advantage.

TAL-Y-DRWS SLATE COMPANY (Limited).—Vice-Chancellor Malins has ordered this company to be wound-up under the supervision of the Court of Chancery, and has confirmed the appointment of Mr. Henry Brown, accountant, of Westminster-chambers, Victoria-street, as liquidator.

LEAD ORES.

Date.	Mines.	Tons.	Price per ton.	Purchasers.
April 27	Lisburne—Glogfach.	15	£18 0 6	Panther Lead Co.
	—East Darren	50	17 12 6	ditto
	—Cwmystwith	16	12 12 0	ditto
28	South Darren	15	18 15 0	Walker, Parker, and Co.
29	Great Laxey	100	22 1 6	Treffry's Estate.
30	Perkins Beach	26	12 12 0	Runcorn Smelting Co.
May 1	Plynlimmon	40	12 16 6	Adam Eyton.
	—Old Treburgett	32	34 3 0	Sheldon, Bush, and Co.
	— ditto	15	26 0 0	ditto
	— ditto	6	19 17 6	Nevill, Druce, and Co.

BLENDE.

Date.	Mines.	Tons.	Price per ton.	Purchasers.
April 28	Talargoch	75	£3 2 6	Richardson and Co.
—	ditto	75	3 2 6	Kenrick and Son.

BLACK TIN.

Date.	Mines.	Tons c.	q.	lb.	Price p. ton.	Amount.	Purchasers.
April 16	Pedn-an-drea	18	9	1 7	£55 0 0	£1015 12 2	—
25	Wheal Uny	15	2	2 25	53 3 4	804 14 8	Tregoning.
29	Penhalls	8	3	2 15	56 5 0	460 4 5	Danbuz.
	—Blue Hills	6	0	3 11	—	339 6 6	ditto
	—Rosewall Hill	9	6	0 7	54 0 0	502 7 4	Treloweth.

COPPER ORES.

Sampled April 8, and sold at Swansea, April 28.

Mines.	Tons.	Produce.	Price.	Mines.	Tons.	Produce.	Price.
Cape Ore	41	33½	£23 1 0	Berehaven	140	8¼	£5 4 6
ditto	38	29½	22 2 0	ditto	135	7¾	4 17 6
ditto	11	50¾	37 7 6	Del Soto	52	22¼	17 2 0
ditto	65	36	26 10 6	ditto	47	11	7 16 0
ditto	49	36½	26 19 0	ditto	14	21¾	16 3 0
ditto	77	29¾	22 3 6	Chili Ore	64	16	11 1 0
ditto	61	29¾	22 6 6	ditto	60	16	10 18 0
ditto	60	29¾	22 8 6	Burrawing	69	11	7 0 6
ditto	81	29½	22 1 6	Cuba Precip.	10	48½	36 0 0
ditto	80	29¾	22 6 6	ditto	10	11½	6 10 0
Berehaven	92	8¾	5 16 6	Spanish Ore	15	7	5 0 0
ditto	92	9	5 17 6				

TOTAL PRODUCE.

Cape Ore	563	£13,229	10 6	Burrawaig Ore	69	£484	14 6
Berehaven	459	2,461	0 6	Cuba Precipitate	20	425	0 0
Del Soto	113	1,481	18 0	Spanish	15	75	0 0
Chili Ore	124	1,361	4 0				

COMPANIES BY WHOM THE ORES WERE PURCHASED.

Names.	Tons.	Amount.
Copper Miners' Company	161	£ 2,683 18 6
P. Grenfell and Sons	138	3,170 8 0
Nevill, Druce, and Co.	90	2,146 0 0
Vivian and Sons	205	2,551 10 0
Williams, Foster, and Co.	434½	4,950 13 9
British and Foreign Copper Company	65	1,734 2 6
Mason and Elkington	130½	1,391 18 9
Sweetland, Tuttle, and Co.	139	904 16 6
Total	1383	£19,523 7 6

NO SALE on May 19.

TOTALS AND AVERAGES.

	21 cwts.	Produce.	Price.	Per unit.	Standard.
Whole sale	1363	19¾	£14 6 5	14s. 6d.	£ 93 18 0

Mining Correspondence.

BRITISH MINES.

ABERDAUNANT.—S. Toy, April 29: The stope in the intermediate level is worth 7*l.* per cubic fathom for lead.—The Rise over the No. 2 Adit Level: We have now finished dividing the same, with shute and ladder-road complete; by doing this we have thoroughly ventilated the No. 4 stope, where we commenced stoping yesterday on the lode, which is worth 10*l.* per cubic fathom for lead; machinery and all other works going on satisfactorily.

ASSHETON.—M. Whitford, J. Craze, April 29: The sinking of Mawr's shaft is progressing favourably, and is now down in the sixth fathom below the 40, the lode in which is fully 2½ ft. wide, containing a little lead, but not sufficient to value; and, should the progress continue according to our expectations, the shaft will be down for a 50 fm. level in two months hence. In the 40 end west the part of the lode carried is about 2½ ft. wide, composed of quartz and blende, intermixed with lead; and, from its appearance to-day, we have every reason to expect an early improvement. The two stopes in the back of the 40, west of No. 1 winze, will yield in the aggregate about 2 tons of lead per fathom. In the winze sinking below the 30, on the south part of the lode, the lode is yielding from about 15 to 20 cwts. of blende and lead per fathom. The stope in the back of the 30, on the south-east branch, will yield 1 ton of lead per fathom. Browne's shaft is now down in the ninth fathom below the 30; this is being pushed on so as to reach the 40 as early as possible; here we would remark that the 40 fm. level is draining the water from this piece of ground, so that this shaft and the winze are almost dry, which, in our opinion, speaks well for the productiveness of the lode at this point. The winze sinking below the 30, west of this shaft, will yield about 25 cwts. of lead per fm.; this, being the lowest point seen of the lode west of Browne's shaft, speaks well for itself. The stope in the back of the 8 will produce from 1½ to 2 tons of lead per fathom. We shall sample on May 4, computed, 50 tons of lead ore.

BAMPFYLDE.—Samuel Mitchell, April 28: Having given a full report of the company's operations in last week's Journal, I beg now to state that all the points of operation for copper, iron, and manganese continue equally good, and better prospects than we have in these mines could not be desired. Some of the directors are on the mine with me to day, who are well pleased with the progress made, the quantities of ore now on the surface, and the general prospects in view. I am expecting other members of the board here to morrow.

BEDFORD UNITED.—W. Phillips, April 30: The midway east is still worth 20*l.* per fathom, and promising to continue. The stope under this level is worth 20*l.* per fathom, and will increase in value as it reaches the fine run of ore from which the last sampling was broken. The midway west is worth from 15*l.* to 20*l.* per fathom, and is promising to open out valuable ground for stoping. We have resumed the 103 east, immediately east of the cross-course; the lode is 4 ft. wide, yielding saving work. The south part of the lode in the 103 west is worth about 10*l.* per fathom.—South Lode: The lode in the 47 east is 2 ft. wide, yielding saving work and letting out a great quantity of water, being near the eastern cross-course. The lode in the rise is much increased in size, and looking better than for some time past.

BOG.—W. T. Harris, J. Barkell, April 29: The ground in the 175, driving east and west, is improving for progress, but the quality of the lode is much as last reported, producing a little saving work for lead and blende. There is no change to notice in any of our trial cross-cuts, excepting the one driving south at the 115, where we have cut into a branch of lead about 2 in. wide; but the cross-cut will be continued to carry out our original object, the cutting of the middle lode, where we expect to meet with something of much greater value. No change in the tribute department since last report.

BOWDEN HILL.—J. Goldsworthy, April 29: The ground in the adit level south is a little more compact, therefore it is a little stiffer for progress, now set at 4*l.* 10s. per fathom—stented the month. The joints of the rock show stains of manganese. There is an increase of water.

BRONFLOYD.—John Davis, April 29: No. 2 Shaft: The ground in Humphrey's cross-cut, to reach the middle lode from the 52, produces ribs of pyrite and carbonate of lime. Lloyd's cross cut, south from the same level, to cut the south lode, is now letting out a strong stream of water three times as much as usual, and there must be an open lode of some kind near by.—No. 3 Shaft, North Lode: There are branches of lead ore all over the end of the 73 east, and the value is 10 cwts. of lead ore per fathom. The drivage east of the long cross-cut from the 84 has now developed two walls or joints about 5 ft. apart, and the lode is looking very kindly, carrying lead ore, and water is also flowing out very fast. The further the lode is exposed from the junction the better it is. The stopes above the 96 continue to produce 1½ ton per cubic fathom, nor is there any change in the other bargains since my last report. We shall send 8 tons of ore over the wire tramway on Friday.

BRYNAMBOR.—George Spargo, April 29: During the past week, in sinking the shaft below the 32, the water has considerably increased, and the lode, as well as the strata, is most congenial and favourable for the production of lead ore. Ere our next we intend taking down more of the lode towards the footwall, and will report to you the result. In cross-cutting the lode in the 32 east we have met with some good stones of lead. As yet I see no sign of the footwall. The stope in the roof of the 22 is much the same as last reported. Saturday next being pay, &c., a full report will be given.

BURRA BURRA.—J. Brown, April 29: The lode at Tanner's engine-shaft, sinking below the 52 fm. level, is very large, carrying a good flookan, and producing good stones of copper ore and mundic—a very kindly lode; we are pushing on the sinking of this shaft with all speed, to open up the mine in depth. The ground in the 30 fm. level, driving south on the cross course, is favourable for driving, and letting out considerable water; no lode or branch cut since we wrote you last; we think we are getting near the lode in this end. The lode in the 18 fathom level, driving east of eastern shaft, is 2 ft. wide, producing stones of grey copper ore, and a little mundic and spar—a very kindly lode; and from its appearance we should think we shall have a good improvement shortly. We have carried the three parcels of blende to the wharf. The engine and pitwork are working well.

BURROW AND BUTSON.—John Christophers, James Mayne, St. Agnes, April 29: The lode at the 62 west has during the past week been cut out by a slide, through which we hope to get in a few days. Up to the slide the lode was 3 feet wide, spotted with copper. We have commenced stoping in the 40, about 20 fms. west of the cross-cut, by four men; lode 4 ft. wide, and worth for blende 2 tons per fathom. We have also commenced stoping in the back of the 30, 12 fathoms west of Tonkin's shaft; lode 5 ft. wide, and worth at present about 30 cwts. of blende per fathom. Our stope in the back of the 20, by four men, is about 28 fms. east of Tonkin's shaft, on a very pretty lode, with a lead-course about 1 ft. wide, and worth fully ½ ton of silver lead ore per fathom. No change in the 20 going west, which we are clearing as fast as possible.

CAEGYNON.—T. Hodge, April 29: In the 70 east end the lode is worth 8*l.* per fathom. The stope in back of the 70 east is worth 12*l.* per fathom.—South Lode: In the 30 south cross-cut we have passed through the lode 9 ft. wide; we have now turned to drive west on its course, where the lode is worth 5*l.* per fathom, and likely to improve as we advance. The stope in back of the 20 east is worth fully 8*l.* per fathom.

CARADON AND PHŒNIX CONSOLS.—James Kelly, April 25: The shaft-men are getting on very well with the sinking of the new shaft below the adit; we shall be down by next Saturday 15 fathoms, making the total depth from surface 47 fathoms; the ground in the bottom of the shaft consists chiefly of a decomposed granite, very favourable for progress. We have not cut into the lode, fearing we should meet water. The lode in the new shaft rising from the back of the 60 is about 3 ft. wide, composed of capel, fluor-spar, blende, and spots of copper ore, a very promising lode indeed, and in all probability we shall find mineral as we rise that will assist in paying for the new shaft. We shall at once commence to put up the poppet heads, pulley stands, &c., so that we may be able to haul the stuff to surface with the drawing machine, as we shall be down by next Saturday as far as we can go below the adit with manual labour. We shall push on the work as fast as possible. The machinery is in good working order, and is working very well.

CWM ELAN.—W. Goldsworthy, April 25: Yesterday being our pay and setting day, the following bargains were taken and refused by the men:—The 20 fm. level to drive west by two men, at 7*l.* 10s. per fathom; the lode here has fallen off a little in value this week, still there is every indication that it will be more productive—it is worth at present about 20 cwts. of lead and blende ore per fathom. The same level to drive east by four men, at 5*l.* 15s. per fathom (2 fms. stent, or cut the eastern cross course); this point is about the same as last valuation. To drive west in this level, on the south part of the lode, by two men, at 6*l.* per fathom; this end at present is yielding a little ore; if the lode does not turn to its former value in a few feet hence, I shall put the men to stope the back of the said level. The stope in the back of the 18 fm. level, east of shaft, is refused at 4*l.* per fathom; will produce for lead and blende 16 cwts. per fm. To stope the back of the 20 west by two men, at 3*l.* 15s. per fathom; the lode at this point is worth from 25 to 27 cwts. of lead and blende ores per fathom. Our machinery is in good working condition,

CENTRAL VAN.—J. Trevethan, April 27: We are making excellent progress in sinking the engine-shaft; during the last fortnight we have gone through several branches of spar, plainly indicating the approach to the lode. In the deep adit level we are pushing on as fast as possible towards the lode, and any day we might get into something cheering.

COURT GRANGE.—The following report has been received from Mr. J. V. Clarke, the Chairman of the company, dated April 28.—I have inspected the works and accounts, and report as follows:—The big wheel, surface rods, and pumping gear at engine-shaft are working admirably. The water is down 11½ fms. below the deep adit, and I find the pitwork good, excepting the joints. At the rate we are now going we shall be down to the bottom in about two months. I have ordered all work to be stopped on the levels, such as explorations, &c., or repairs of any kind other than pitwork, and I take it for granted that the 20 or 30 fms. of ore standing between the deep adit and the 16 will be found on the same run of ore throughout the mine to the bottom, as it is evidently a mineral which has defied dressing by the old company, but which can be dressed by us to a profit, and that each level will represent to this company a good 80 or 100 tons of lead. The ore found in the sole of the adit goes through to the 16, but until we have dressing-floors erected, or rather more complete floors than our present floors, it would be an unnecessary outlay of money. When we are down to the bottom we shall have 8 fms. to sink to get into the old lode, which has produced all the pay ore, which has enabled the old company to leave behind the stopes I have referred to above. At this point we are, therefore, going on simply draining the mine. At the eastern ground the wheel is ready and the launders completed, and the water can be turned on any time we like. The masonry round the Broginan shaft is likewise completed, and the surface roads are now going up. We have taken up an old lift of pumps from the old mine, and are putting down here, and I should think another fortnight will see the water out of this shaft. Should we then find the bunch of ore which the old company drove the long levels from the engine shaft to intersect, Court Grange will have a long and lasting future as regards dividends. No other work is going on.

CRENVER AND WHEAL ABRAHAM.—W. Thomas, J. Hammill, April 29: Setting Report: On Saturday last the following bargains were taken:—Sturt's Engine-Shaft: To drive the 228, west of shaft, by eight men, the month, at 22*l.* per fathom; the lode is 2 ft. wide, composed principally of spar. To drive the 215 west by eight men, the month, at 11*l.* per fathom; the lode is 3 ft. wide, yielding 2 tons of copper ore per fathom. To drive the 200 east by two men and two boys, the month, at 16*l.* per fathom; the lode is 1½ ft. wide, producing good stones of copper ore.—Crenver Shaft: To drive the 140, west of Harvey's rise and east of shaft, by three men and three boys, at 8*l.* 10s. per fathom; the lode is 1 ft. wide, occasionally yielding stones of tin.—St. George's Shaft: To sink this shaft below the 203 by nine men, the month, at 18*l.* per fathom; the lode is 1½ ft. wide, yielding copper ore to dress. To sink a winze below the 203, east of shaft, by six men, the month, at 9*l.* per fathom; the lode is 1½ ft. wide, producing 2 tons of copper ore per fathom. To drive the 208, east on the south lode and west of shaft, by six men, the month, at 7*l.* 10s. per fathom; the lode is 1 ft. wide, producing copper ore to dress. To drive the 208, east of Woolf's shaft, by nine men, at 11*l.* per fathom; the lode is 6 ft. wide, yielding 2 tons of copper ore per fathom. We intend to drive 2 fms. further east, which we hope will thoroughly drain the tribute ground east of this point, when we shall again resume the sinking of this shaft. To drive the 208 west by three men and three boys, the month, at 14*l.* per fathom; the lode is 1½ ft. wide, yielding copper ore to dress.—Vivian's Shaft: To drive the 220 east by six men, the month, at 11*l.* per fathom; this shaft is communicated to the 220, which has well ventilated the ground at this point. We shall put in a skip road from the 210 to the 220 as quickly as possible.—Pelly's Engine-Shaft: The men are engaged in cutting hitches to put in bearers and cistern, to fix a plunger-lift, &c. To drive the 248 east by six men, the month, at 16*l.* per fathom; the lode is 1½ ft. wide, principally composed of spar. To drive the 248 west by six men, the month, at 16*l.* per fathom; the lode is 1½ ft. wide, and occasionally yields stones of copper ore. To drive the 234 east by six men, the month, at 13*l.* per fathom; the lode is 2 ft. wide, composed of mundic, peach, and spar. To drive the 234, east on the south part of the lode and west of shaft, by four men, the month, at 8*l.* 10s. per fathom; the lode is 2 ft. wide, yielding stones of copper ore. To drive the 234 west by eight men, the month, at 8*l.* per fathom; the lode is 5 ft. wide, and produces 1 ton of copper ore and some good stones of tin per fm. To sink a winze below the 234 by nine men, the month, at 14*l.* per fathom; the lode is 6 ft. wide, producing 5 tons of copper ore per fathom for the length of the winze, 12 ft.—Blewitt's Shaft: To sink the shaft below the 220 by six men, the month, at 9*l.* per fathom; the lode is 2½ ft. wide, producing some good work for tin. To drive the 220 west by six men, the month, at 5*l.* per fathom; the lode is 1½ ft. wide, having a kindly appearance and letting out water freely. To drive the 210 west by six men, the month, at 6*l.* 10s. per fathom; the lode is 2 ft. wide, having a better appearance.—Richards's Shaft: To drive the 200 west by six men, the month, at 7*l.* 10s. per fathom; the lode is 2½ ft. wide, yielding stones of copper ore. To drive the 180 west by six men, the month, at 5*l.* 10s. per fathom; the lode is 1½ ft. wide, having a promising appearance to produce tin shortly. To drive the 170 west by six men, the month, at 4*l.* per fathom; the lode is 1 ft. wide, and worth for tin 15*l.* per fathom; this is a good improvement, there being a large portion of unexplored ground in this direction.—Gard's Shaft: To drive the 70 cross-cut south by two men and two boys, the month, or cut the lode, at 8*l.* per fathom.—St. George's Shaft: To drive the 190 east, on the south lode, by six men, the month, at 8*l.* per fathom; the lode is 1 ft. wide, and yielding good stones of copper ore. The 110 cross-cut, north of Pelly's shaft, is being driven by four men, the month, at 22*l.* per fathom; the ground is of the same character as when last reported on. A portion of the stamps is already on the mines, and we are pushing on the masonry with all speed. There are employed this week on tutwork 179 men and boys; tribute, 74; at surface, 60; total, 313.

CWM DWYFOR.—N. C. Morcom, April 30: The ground in the first level, east of the south cross-cut, is exceedingly hard for driving through. The lode is small, producing a little copper ore. In the first level, east of the north cross-cut, the lode is getting more defined; it is 5 ft. wide, containing mundic, a little copper, with occasional stones of lead. The tram-road is laid down in the north cross-cut.

DE BROKE.—T. Hodge, April 29: In the undarground department I have nothing new to report. The men generally are employed about surface work. Mr. Ellis will complete his contract by Saturday next, by which time I hope to have the launders up to convey the water to the big wheel. We are behind in our work, as I anticipated; this occurred for want of carpenters; however, we are well onward, and I hope in a week or two be ready to set the whole of the machinery in motion. Every thing shall be pushed on as fast as possible.

DEERPARK.—J. Goldsworthy, J. Bucknell April 25: The sinking of engine-shaft below the adit level is progressing favourably. The stratum is strongly charged with mineral; the branch produces copper, blende, tin ores, capel, &c., of a promising description. The necessary surface work is being forced on with all speed possible. The engine works well, and also the other machinery.

DENBIGHSHIRE CONSOLIDATED.—J. Pryor, April 30: In the 112 east the lode is still producing a little lead ore, the composition of it is spar and lime mixed with good samples. In the 112 west the lode is unsettled, composed of clay and boulders of limestone; to-day we found one lump of solid lead weighing 42 lbs., which may be considered a guarantee of what we are to expect when the junction of lodes is met with. The rise in new lode out of the 66 west is still improving in the production of lead ore, and I think shortly that this lode will yield us largely. The two new shafts are going down very satisfactorily. We shall commence to-morrow to make a few alterations in our winding engine.

DRAKE WALLS.—Wm. Skewis, Edward Dunstan, April 28: The engine-shaft is now drained to the bottom of the 90; we have set the men to clean out cistern, re-make joints in lift, fix pole and main rod in their places for permanently pumping water in this level. They have also to remove the drawing-lift lately placed there to fork with. We went through the 90 to the eastern end of the mine, and find some large and rich branches of tin standing there and in the back of the level for about 12 to 15 fms. behind the same. The remainder of the ground to Mathew's shaft appears to be stoped away as high as ths 50, leaving a breast of ground standing for about 12 to 15 ft. wide, where men will be put to stope as quickly as possible. It will probably take a fortnight to repair skip road, &c., in Mathew's shaft, from the 50 down, before we can draw from here, besides a tramway to lay down from the shaft to the end of level. In the 80 west the tramroad is completed to the western end of level, and tributers' work set to be trammed. We shall be drawing from here this week. If any difference, the pitches here are looking somewhat better. The south branches which have been worked upon in this part of the mine, and produced the bulk of tin ore for years past, we are inclined to think have never yet been seen in the eastern part of the mine. No other noticeable change since last report. At surface tramroads are being laid from shafts to stamps, for the purpose of fully supplying them with stuff. More buddies are also being erected as speedily as possible. Every week we are getting into a better position for increasing our sales of ore. The whole of the new 50 heads of stamps are now working and going on satisfactorily.

DUNSLEY WHEAL PHŒNIX.—W. Skewis, W. Richards, April 24: The lode in the whim-shaft is still pretty large, producing iron, peach, capel, and mundic; the latter, I believe, is considered by old and experienced men a sure indication of tin or copper, and although the shaft may be going down at present in a poor part of the lode for tin, yet possibly in sinking a few fathoms deeper we may come in the tin, and if not in sinking then, of course, we shall have to prove the lode by cutting through it and driving on it. In the deep adit level we are driving west of cross-cut on course of the lode; taking in all the branches together, the lode here must be 5 or 6 ft. wide. It strikes me that this end will have to be driven further into the hill before we meet with much success, yet this lode, as well as the lode in whim-shaft, has the like indications for minerals as are found in the neighbouring mines, and possibly before long we may have a course of tin in Dunsley Wheal Phœnix.

DYLIFFE.—Edward Evans, Edward Rogers, April 24: Dyliffe Lode: At the 120 the shaftmen are preparing the necessary requirements for fixing the pitwork at this level. In the back of the 105 there are two stopes working. No. 1, east of the cross cut, is set to ten men, at 4*l.* 10s. per fathom; the lode is worth 24*l.* per fathom. No. 2 is let to four men, at 3*l.* 17s. per fathom; lode worth 8*l.* per fm. At the 40 we are driving east of boundary shaft, by six men and two boys, at 8*l.* per fathom; lode worth about 6*l.* per fathom. The 25 is driving east of old engine-shaft, by six men, at 6*l.* 15s. per fathom; the lode is 3 ft. wide, composed of spar, blende, and spots of lead ore. This level west is suspended for the present, and the men (six in number) put to sink a winze by the side of the lode, at 5*l.* 10s. per fm., in order to make a communication to the 40. No. 1 stope, in the back of the 25 west is let to six men, at 3*l.* per fathom; lode worth 18*l.* per fathom. No. 3 stope at this level is working, by six men, at 2*l.* 10s. per fathom; lode worth 30*l.* per fm. At the 15 we are driving east, by six men, at 5*l.* 15s. per fathom; the lode is 1 foot wide, and unproductive. In the bottom of the adit there is a winze sinking by the side of the lode, by twelve men, at 15*l.* per fathom.—Esgairgaled Lode: The 45 is driving west, by six men, at 5*l.* per fathom, and is pushed forward by the side of the lode for dispatch. No. 1 stope, in the back of this level, is working, by six men, at 2*l.* per fathom; the lode is worth 12*l.* per fathom. At the 40 we are cross-cutting north towards the lode, by seven men, at 6*l.* 15s., per fathom.—Llechwedd-du Lode: At the 35, No. 1 stope is working, by four men, at 3*l.* per fathom; the lode is worth 12*l.* per fathom. At the 25 there is one stope working, by eight men, at 2*l.* 10s. per fathom; lode worth 18*l.* per fathom.

EAGLEBROOK.—H. Tyack, April 25: I am glad to be able to inform you that the character of the lode in the 50 east is very much improved; it now contains a solid rib of lead, about 4 in. wide; also branches of yellow copper and blende, and likely to lead to great results, as it seems as if it were the beginning of a great course of ore, the vein being upwards of 10 ft. wide, and the walls of the lode are well defined. The flow of water from the lode since my last has considerably increased; it will now be desirable to have a new crank to the pumping-wheel 6 ft. 6 in. stroke; the present one is only about 4 ft. stroke. I think it also advisable to fix the line of rods from the new engine-shaft to the other side of the pumping-wheel; by doing this the wheel will work much easier and with much less water. The 50 end men are now engaged in driving the 40 east; this level should be pressed on a few fathoms further with all possible speed, and a winze sunk from the 50 fm. level for better ventilation.

EAST BALLESWIDDEN.—T. Trahair, April 30; The 30 fm. level, driving west from the engine shaft, is in a beautiful decomposed granite; the lode is large and saving work for tin. There is no change to notice in stopes for the week. The next sale of tin will be on April 30.

EAST CHIVERTON.—H. Southey, April 29: Telegram: Best stones of lead yet seen in the mine have been taken from the end of the bottom level thie day.

EAST WHEAL GRENVILLE.—E. Hosking, W. Bennetts, April 25: Setting Report: The 130 to drive west of engine-shaft by six men, at 7*l.* per fathom. The ground in this end is favourable driving, the lode has a kindly appearance, and is 18 in. wide, yielding saving work for tin. The 120 to drive north of engine lode by two men and one boy, at 10*l.* per fathom. We have again resumed this cross-cut, as we find according to the dialling laid down by our surveyor that there is every prospect of our intersecting the great tin lode of South Condurrow and the Grenville lode. The 110 to drive west of engine-shaft by two men, at 6*l.* per fm.: the lode is 18 in. wide, producing saving work for copper and tin. The 110 to drive east of cross-course by four men, at 8*l.* 10s. per fathom; the lode is 18 in. wide, producing stones of copper ore and a little tin. The 95 to drive east by two men, at 4*l.* per fathom; the lode is 2 ft. wide, and worth 8*l.* per fathom. The winze to sink below the 95 east by four men, at 6*l.* per fathom; the lode is worth 8*l.* per fathom. The stope below the 85 east by four men, at 2*l.* 5s. per fathom; the lode is worth 8*l.* per fathom.

EAST WHEAL GRENVILLE.—E. Hosking, W. Bennetts, April 30: The lode in the 110 east is looking very kindly, producing some rich ore, and the ground is easier for driving. No other change to notice.

FRON VELLAN.—Capt. Harper, April 29: The cross-cut driving north of the level, west of the deep adit, is being forced on with all possible dispatch; the ground is without change since last week. The shaft is down to a sufficient depth to commence driving a cross-cut to intersect the lode; at present the men are engaged in putting in timber, so that we can cover the shaft to keep the stuff from going down into the water, after which we shall put a ladder-road in the same. Next Saturday being our setting-day, a full report will be sent you next week.

FURZE HILL.—W. Doidge, April 30; No. 1 North Lode: In driving the 54 east we have again communicated to ancient workings, which have been carried down below this level, but to what extent as yet we cannot say. The place we have holed to appears to have been the engine-shaft, as we found a wood pump and ladder still standing there, but otherwise it is filled with attle. We are now clearing and securing the 40 eastward, and hope by the end of this week to get sufficiently east of the old shaft or workings referred to to commence clearing it, in order to effect a communication with the 54 for ventilation. Some good tinstuff has been found with the attle in clearing this level (the 40).—Middle Lode: The 40 west is still in disordered ground. The average value of the stope in this lode is worth from 5*l.* to 6*l.* per fathom, set at 27s. 6d. per fathom. We shall send another parcel of tin to market on Monday next, computed 5 tons, which will leave a profit on the four weeks of about 100*l.* The coppice in the higher wood, on the eastern part of the sett, has lately been thinned out, so that we are now better enabled to examine the old workings, which we find much more extensive there than to the west, and where an elvan course is running parallel with and in close proximity to No. 1 north lode for a considerable distance, in connection with which the lodes invariably improve where seen in any other part of the sett, and, no doubt, when the bottom of the ancient workings are reached below the 54 (which is under this elvan) a good course of tin will be met with.

GAWTON COPPER.—Geo. Rowe, Geo. Rowe, jun., April 25: The ground in King's engine-shaft, sinking below the 105, continues of a good character, and our progress satisfactory. The lode in the stopes in the 105 east is worth 15*l.* per fathom. The lode in the stopes in the bottom of the 82, west of winze, is worth 10*l.* per fathom. The lode in the stopes in the bottom of the same level, east of said winze, is worth 12*l.* per fathom. The stopes in the back of the 70 are worth 15*l.* per fathom. We are busily engaged in preparing for our next sampling, which we calculate will be over 100 tons of copper ore.

GORSEDD AND CELYN LEVEL.—W. Edwards, April 30: Quarry Lode: I am pleased to say that the production of ore continues quite satisfactory, and we are likely to prepare a good parcel from this alone for the sale. In the driving east from the Gorsedd shaft we are likewise improving; some very good lumps of ore are being taken out, and I expect to be able to announce some good discovery very shortly. We are just now in the position where the runs of lead should be struck. The driving of the adit to cut the Merllyn vein is in very good ground for progress.

GREAT LAXEY.—Edmund Kerrnish, April 22: Engineer's Report: The extensive alterations in front of Collom's patent jigging machines, or between the machines and the large elevators, are completed. Next to the elevators there has been a large new wire screen put up to take the coarsest stuff away before going on to the machines. Then we have made a large perforated iron screen to take the finest stuff out of what has passed through the first screen, and a slime-separating box to take the fine slime out of the fine stuff, the coarse stuff being sent direct from the large screen to a propeller to take the crop or best ore out, and send the rest of the stuff direct to the jigging machines, and the coarse stuff from the slime-separating box goes on to one row of jigging machines. The fine slime from the separating box goes on to two ties to draw or classify. All the above are at work. The two large new jigging tubs are finished and at work. The new teams are about finished, and are being used, but as we have not got wagons yet, which we expect to get every day, we are compelled to use wheel-barrows to remove the stuff for the present. The large hoist for lifting the refuse on to the bank I expect will be ready for work in a day or so. The crushing mills are being got on with, but not as fast as I should like, as we have been kept back with the smiths' work, the smiths being busy with the work for the hoist. When the hoist is finished I expect to be able to get on much faster with the mills. The new buddles on the lower slime-floors are being got on with now as fast as possible, and there is a new raft-wheel ready for putting into the place of the present old one, which has gone very bad, and we shall take it out and put the new one into its place when next we change the crushing mill rollers, so as to save time by doing both jobs when the mill is standing.

GREAT RETALLACK.—J. Harris, April 25: In the 40 fm. level, east of cross-cut, the lode is not quite so well for blende as when last reported, but yielding good stones of ore. In the 20, east of new shaft, we have cooken some capital work this week; the lode now is worth rom 12 to 15 cwts. of blende per fathom.

GREAT WEST VAN.—J. Roach, April 30: The 46, east of engine-shaft, is without alteration since reported last week; the lode still contains blende and pieces of lead ore. The rise above the 46 west contains branches of ore, and water percolates freely from the lode. The winze under the 34 west is also in ore, but, as I advised you last werk, the best portion of the lode is standing south. We are using every effort to effect the communication between these two points during the present working month, which expires on May 16. The rise and stope in the 34 east is still producing 1½ ton of lead per fathom and upwards. The lode in the 34 west is yielding 1 to 1 of lead per fathom. Yesterday fissures were again met with in this end of the ground, which are draining the winze sunk under the 22, east of Eliza's shaft, consequently we expect a more productive lode here in future. The winze has been suspended in consequence of water. The stopes in the roof of the 34, to the east and west of ladder-road winze, are still producing 2 and 1½ tons of ore per fathom respectively. Fixing lift at Eliza's engine-shaft has been accomplished, and the sinking resumed. Dressing of ore and all other work goes on.

GUNNISLAKE (Clitters).—W. Skewis, J. C. Seccombe, April 29: The lode in the 164 east is disordered by cross-branches; now worth 12*l.* per fathom. In this level west the lode is making larger; now 2 ft. wide, worth 6*l.* per fathom. The stopes in back of this level are worth (east) 16*l.* and (west) 10*l.* per fathom. The lode in No. 2 winze sinking in bottom of the 152 is worth 14*l.* per fathom, looking very promising for further improvement. The stopes in the back of the 152 are worth (No. 1) 8*l.* and (No. 2) 12*l.* per fathom. The lode in the 140 west is 3 ft. wide, worth 13*l.* per fathom. No change in the 116 since date of meeting.

HINGSTON DOWN CONSOLS.—James Richards, April 30: Bailey's Shaft: In the 150 west the lode is large, being from 5 to 6 ft. wide at starting; only about 4 ft. is, however, being carried, which is composed of strong capel, mundic, peach, and quartz, with stones of both copper and tin ores. In the 140 west the lode is still worth 20*l.* per fathom. The lode in the three stopes in the back of the 140 west is still worth 30*l.*, 20*l.*, and 20*l.* per fathom. In Cocking's winze sinking below the 140 west the lode is still worth for length of sink (9 ft.) 50*l.* per fathom. In the 120 west the lode is again disturbed, and for the present is worth 5*l.* per fathom. The lode in the stope in the bottom of the 120 west, on the north part of the lode, is worth fully 15*l.* per fathom. In the 110 west the lode is 2½ ft. wide, composed of quartz, capel, and mundic. The lode in the stope in the back of the 110 west is worth 10*l.* per fathom.

HOLYWELL (Silver-Lead).—Wm. Wasley, April 30: I am glad to say that the lode in Rector's Hobby shaft has greatly improved in appearance for ore, and is now producing some very fine lumps, and I think there is no doubt but that we shall soon have a fine course of ore here, and as we can work dry without any pumping engines for a considerable depth I consider this a very important part of the mine. The ground in the 55 yard level cross-cut, driving east of Plantation shaft, has further improved, and the men are making good progress. We are getting on well with clearing the level south, and we hope soon to be able to get on a great distance.

LADY CONSTANCE.—Wm. Wasley, April 29: The ground in the cross-cut at Katie's shaft has further improved both in appearance for ore and easier for driving, and I am daily expecting to cut into something very good. The men are making fair progress in sinking the old shaft. We shall have a lot of ore to sell at the sale at Holywell next month.

MENHENNIOTT.—J. Bray, April 28: I have not had anything worthy of particular notice since I last wrote until now, and it is with much pleasure I have to inform you that to-day I have met with something beyond stones—I may now say rocks of ore—and nothing could be seen before working; it is also going down in the bottom of the adit, and about 50 fms. in on the course of the lode. I would remind you that the parties who hitherto inspected and reported on this property have seen nothing of the very important discoveries recently made, and the specimens from each place need only to be seen to be admired. Surely if parties who are at all inclined to embark in lead mining were only to see what I can show them in this little mine they would most assuredly at once join in the undertaking. You may rely with the utmost possible confidence in what I say respecting this matter, and safely recommend it to your friends, and it must be borne in mind that the truth is easily to be ascertained. Under no circumstances will I say anything more than I really believe in, or am in a position to fully bear out. I have a very strong wish that yourself and some, at least, of the directors and shareholders should visit the mine and judge for yourselves.

NEW HENDRA.—R. King, April 29: The men are making fair progress in the deep adit end, and the lode a little larger than it has been for some time past, with spots of copper in it; ground more congenial for mineral than it has been. We have also good ventilation throughout the mine. The air solliars are answering their purpose exceedingly well.

NEW PEMBROKE,—F. Puckey, C. Merrett, April 27: There is no change to notice in the 110, driving east of the engine-shaft, on the south part of the lode, which is still small and poor for mineral. At the same level, driving west on the north lode, the lode is 1½ ft. wide, yielding stones of rich copper ore, and promising improvement. In the rise in the back of the 110, east of the shaft, the lode is 2 ft. wide, composed of quartz, soft peach, and fine mundic, but poor for tin. In the 110, driving east of the shaft, the lode in the end is 1 ft. wide, producing saving work for tin. We have five stopes working in the back of the 100, four of which are on the south or main lode. In No. 1 stope, east of the shaft, the lode is 5 ft. wide, and worth 16*l.* per fathom. In No. 2 stope the lode and branches for 7 ft. wide are worth 28*l.* per fathom. In No 3 stope the lode is 5 ft. wide, and worth 25*l.* per fathom. In No. 4 stope, behind the end, the lode and branches for 4 ft. wide are worth 12*l.* per fathom. In the stope in the back of the same level east, on the north lode, the lode and branches for 10 ft. wide are worth 32*l.* per fathom. In the 92 east the lode in the end is 3 ft. wide, producing stones of copper and a little tin, and letting out a large stream of water; this end is now being forced on by a full pare of six men, and we expect in a few fathoms further driving to meet with the rich bunch of copper going down from the level above. In the stope in the back of the 90, east of the winze, the lode is 6 ft. wide, and worth 20*l.* per fathom. In the stope further east the lode is 4 ft. wide, and worth 16*l.* per fathom. In the stope in the back of the 60, on the south lode, the lode is 4 ft. wide, and worth 12*l.* per fathom. The average price for stoping the lode throughout the mine is 2*l.* 15s. per fathom. In the winze sinking below the 75, east of the engine-shaft, the lode has considerably improved since our last report, and is now from 4 to 5 ft. wide, and worth 40*l.* per fathom for copper ore, and from the dip of the ore in this winze we expect soon to reach the same bunch in the 90 end, should it hold down to that level. In the 75 cross-cut, driving north, we have not yet reached the lode, but have passed through veins which contain rich copper ore, thus showing that the ground is highly charged with that mineral. There is still a large stream of water issuing very strongly from the end, indicating that we are near a large lode. The rise in the back of the 68 is communicated with the 60, which has given good ventilation. In the western part of the mine we have cleared and secured the 131, west of Edgcumbe's shaft, on the south or red lode to the present end; this level was driven by the former workers 35 fms. We have commenced driving west on this lode, which is from 4 to 5 ft. wide, and composed of quartz, soft peach, and mundic, but at present poor for mineral. We are also clearing and securing the same level west on the north or main copper lode; so far as seen the lode has all been taken away, both from back and bottom of the level, and occasionally rich stones of copper ore are found in the attle, which shows that the former workers must have had a good lode for copper. The level is badly crushed, choked full of stuff, and sore for progress.

NEW ROSEWARNE.—E. Hosking, W. Bennetts, April 25: The lode in the 58, west of Pool's shaft, is producing some rich copper ore, and we think it likely to improve, as we are meeting with patches of elvan. There is no change in any other part.

NEW ROSEWARNE.—E. Hosking, W. Bennetts, April 30: In the 58, west of Pool's shaft, we have got the elvans in the south side of the end; the lode is much the same as last reported, but we consider the cutting of the elvans to be important, as good bunches of copper ore have been met with in connection with them in other parts of the mine.

NEW SOUTH MERLLYN.—R. Rowlands, April 30: In the 120 yard level the lode is fully 4 ft. wide, composed of nice spar, with riders of limestone spotted with ore. We should not be long before meeting the runs of lead passed through in the levels above. No other change to notice.

NORTH HENDRE.—J. Lean, April 29: I am glad to say the driving of the main north level has been resumed; the lode is very large, composed chiefly of spar, containing large lumps of ore, and is of an exceedingly promising character; therefore we may expect to see an improvement in its yield at an early date; I shall push on the driving with a full pare of eight men, as this is a very important point. The lode in the No. 2 west continues to look well, and is turning out 4 tons of lead per fathom. A slight improvement has taken place in the No. 2 east, the lode having increased in size and in the yield of ore; the ground is likewise a little

more favourable for progress. No other change to notice in this part of the mine. —Bromley Shaft: The 70 yard level driving north-east is still in a splendid channel of ground, composed of spar and clay, with occasional lumps of solid ore; I fully expect to see an improvement here at an early period. I have had the main adit cleaned out to the forebreast, and to day commenced to drive on the course on the lode; at present it is rather small, but contains a little ore; this is another good trial in virgin ground, and will be pushed on without delay, hoping to discover something good in this direction. Surface operations going on as usual.

NORTH LAXEY.—R. Rowe, April 25: The lode in the bottom ends in the 121 fm. level north and south is about 2 ft. wide, and very regular, but so far unproductive. Excepting in the south end we have good stones of ore, the north end is now certainly close up under the first run of ore ground in the 110. The 110 end continues to look well, lode about 3 feet wide, and worth 2 tons of lead per fathom; we trust this will continue, as the end is now in new and whole ground. The stopes in the roofs of the 110 and 96 fm. level are worth on an average 12 cwts. of lead per fathom, and one in the roof of the 60 north 1 ton of lead per fathom. The lode in the 60, driving south, is about 1½ ft. wide, yielding stones of ore, and a great quantity of water; we expected a discovery of value in this driving before now. We shall have about 45 tons of lead dressed by pay-day (this day fortnight).

NORTH ROSEWARNE.—E. Hosking, W. Bennetts, April 30: We have drawn up the lift from the 20, on the north lode, and set the 20 east end men a bargain to cut down the whim-shaft to the adit on the Relistian lode. This we expect to accomplish in a few days, when we shall commence sinking below the adit level.

OLD TREBURGETT.—Wm. Hancock, W. T. Bryant, April 29: Setting Report: The shaftmen are still engaged fixing plunger-lift at the 70, and other work connected therewith, preparatory to sinking the shaft below the 80, and hope to complete it some time next week. The lode in the 80, south of the shaft, is 1½ foot wide, and worth about 5l. per fathom; this end is still in a hardish bar of ground, similar to what we had in the level over; contract not out. The 70, to drive south of the shaft, by six men, two months, at 8l. 10s. per fathom; worth 25l. per fm. No. 1 stope, in the back of this level, by four men, two months, at 6l. per fathom; worth 10l. per fathom. No. 2 stope, by six men, to beat it up to bottom of the 60, at 5l. per fathom, worth 12l. per fathom. No. 3 stope, by six men, two months at 4l. 12s. 6d. per fathom; worth 15l. per fathom. No. 4 stope, by four men, two months, at 3l. 15s. per fathom; worth 18l. per fathom. The winze to sink under this level, by six men, to communicate to the 80, at 12l. per fathom; we hope to have the end forth against it is down; lode worth 8l. per fathom. To make a good level in the east part of the lode in the 60, were communicated to from No. 3 winze sunk under the 40, by six men, the month, at 6l. 15s. per month; worth about 20l. per fathom. To put a stope over the back of level from the winze on the east part of the lode, to meet the stope or level coming in, so as to make the level preparatory to driving on the end south again, by six men, we cannot but badly set this yet on account of the difficulty in getting away the stuff till more room is made; lode worth 18l. per fathom. To cross-cut through the west part of the lode, by four men, at 8l. per fathom; worth, so far as we can see of it, about 8l. per fathom. To cross-cut east in this level, just under the No. 2 winze, sunk below the 40, by two men, the month, at 7l. per fathom; this is to intersect a part of the lode and some branches that went off in that direction back in the level. No. 1 stope, in the back of the level, by six men, one month, at 4l. 10s. per fathom; worth 12l. per fathom. No. 2 stope, by four men, two months, at 4l. 10s. per fathom; worth 10l. per fm. No. 3 stope, by four men, one month, on the east part of the lode, at 5l. 10s. per fathom, and to have 5l. to take down the western part; worth altogether about 20l. per fathom. No. 4 contract not out, worth about 7l. per fathom. No. 5 stope, by four men, two months, at 4l. 10s. per fathom; worth 6l. per fathom. No. 6, by four men, two months, on the east part of the lode, at 4l. 5s. per fathom; worth 9l. per fathom. The tramming, filling, landing, and other contract work underground and at surface, much the same as last time. The masons have completed the slime pits, and we hope to get one of the round buddles to work the early part of next week. We sampled on Thursday last three parcels of our usual quality silver-lead ores. No. 1 computed 32 tons, No. 2 computed 15 tons, No. 3 computed 6 tons, for sale on Friday. No. 1 assayed 16½ in 20 for lead, and 88 ozs. of silver to the ton; No. 2 assayed 13½ in 20 for lead, and 59¾ oz. of silver; No. 3 assayed 11½ in 20 for lead, and 50¼ oz. silver.

PARYS MOUNTAIN.—J. Mitchell, April 29: The stopes at the intermediate level over the 90 by six men, the month, at 6l. 10s. per fathom; the lode is worth 6 tons of copper ore and 2 tons of sulphur per fathom. The stopes near the cross-course at the 80 by six men, at 6l. per fathom; yielding 5 tons of copper ore and 2 tons sulphur per fathom. The stopes at the 80, west of cross course, by eight men, at 6l. per fathom; yielding 7 tons of copper ore and 2 tons of sulphur per fathom. The stopes in the bottom of the 65, west of winze, by six men, at 6l. per fathom; yielding 6 tons of copper ore and 2 tons of sulphur per fathom. The stopes east of winze at the 65 by six men, at 4l. 10s. per fathom; lode worth 5 tons of copper ore and 2 tons sulphur per fathom. This point has recently been holed through to the stopes in the back of the 80, and the lode can now be stoped away with great advantage. The stopes at the 65, west of rise, by six men, at 6l. per fathom; lode worth 5 tons of copper ore and 2 tons sulphur per fathom. The stopes at the 65, east of rise, by six men, at 6l. per fathom; lode worth 6 tons of copper ore and 2 tons of sulphur per fathom. A bargain to four men, at 10l.; to hole a piece of ground at the 65, west of cross-course for ventilation, and for conveniences for working and removing the ore and sulphur which we are getting at this level. At the same time this bar of ground (about 11 ft. thick) will turn out 5 or 6 tons of copper ore. We have set nine tribute pitches to 15 men at the usual prices.

PARYS MOUNTAIN.—T. Mitchell, April 30: The stopes in bottom of the 65, west of winze, are looking much better, and yielding copper ore of an excellent quality. All other points continue to look much the same as on the setting-day of the 25th instant. We have a good quantity of copper precipitate now ready for sale, and shall have two parcels of copper ore to offer in a day or two.

PEDN-AN-DREA UNITED.—W. Tregay, W. Prideaux, John Pope, April 25: Sump: We are making fair progress in sinking, the water being moderate in quantity. In the 150 fathom level west end the lode (Martin's) is worth 20l. per fathom. In 140 east pitch the lode (Martin's) is worth 30l. per fathom. In the 140 west end the lode (Martin's) is worth 20l. per fathom. In the 130 west end the lode (Martin's) is worth 6l. per fathom. In the 130 west rise the lode (Martin's) is worth 8l. per fathom.—Cobbler's: In the 120 fathom level west end the lode (Martin's) is worth 12l. per fathom.—Cardozo's: In the 90 west end the lode (north) is worth 14l. per fathom. In the 80 west end the lode (north) is worth 15l. per fathom. In the 70 west end the lode (north) is worth 10l. per fathom. In the 60 west end the lode (north) is worth 20l. per fathom. In the 55 west end the lode (north) is worth 10l. per fathom.—Trevena's: In the 47 east the branches (carbona) are worth 15l. per fathom.—Critchley's: We are making moderate progress only, but some of the men having been changed, we hope next week to again proceed vigorously with the sinking. No other changes to report. We sold on April 16 18 tons 9 cwts. 1 qr. 7 lbs. of black tin, at 55l. per ton—1015l. 12s. 2d.

PENHALE WHEAL VOR.—W. H. Martin, April 28: On Friday last we set to sink the engine-shaft below the 170, by twelve men, at 21l. per fathom; here we did purpose to sink the engine-shaft 16 fms., or reach the junction; but now we have cut the rich lode in the 170 west, I recommended to cut plat at the 180, and cross cut to the lode. The 170 to drive east, by four men, at 8l. per fathom; the lode does not contain quite so much mundic, but is letting out more water. The 170 end west to drive by eight men, at 9l. per fathom. The lode is looking well, worth 40l. per fathom, with every appearance of further improvement.

PENHALLS.—S. Bennetts, W. Higgins, April 25: The 70 east is unproductive. The rise in back of the 60 east is worth 8l. per fathom. The 50 east is at present poor. The same level west is worth 9l. per fathom. Two stopes over this level are respectively worth 15l. and 18l. per fathom, while another stope further west is worth 12l. per fathom. This same section of the lode has just been cut by a cross-cut some 8 to 10 fms. further west, and found worth 20l. per fathom; this point is just under the winze below the 45, at the Shop shaft, where the lode is worth 15l. per fathom. There is no change of importance in either of the other points of operation since last reported on.

PENNERLEY.—W. T. Harris, J. Delbridge, April 29: Potter's Pit: The shaft sinking below the 55 fm. level is making fair progress, and down about 6 fms. In the cross-cut driving north at this level we have cut a branch of the north lode, which is producing good stones of lead and blende, but believing the productive part is still before us we shall push on the driving to the north wall. The lode in the level driving west, although it is yielding some good stones of lead, we leave putting a value on until next week; by then we think a further improvement will take place. All other drivings and stopes in this portion of the mine are producing lead quite equal in value as reported last week.—Engine-Shaft: The only alteration here is in the winze sinking below the 80, where in driving west from the bottom the lode has much improved; now worth 2 tons lead per fathom, and very promising; through some arrangements we have been enabled to commence rising against this winze from the 120; this will greatly facilitate a communication, which we hope to do in another week.

PERKINS BEACH.—S. M. Ridge, April 29: The breast driving west upon the course of the Pump-Sump and Chimney-Pipe lode is at present poor, and the lode small, and the ground stronger for driving. Guilliam's lode, east of the south cross-cut, is poor, and the ground strong and hard; I purpose to suspend the driving here for the present, and put four men to rise upon the course of the caunter lode we have driven through, where I have myself broken some good small lumps of lead out of the top of the rise, which is now up above level 5 fms. 4 ft.—a kindly lode, and likely to improve, and it is all in whole and unwrought ground for scores of fathoms. The two men are making good progress in driving south-east upon the branch lode at the top of Guilliam's rise in the middle adit level, and I consider this a good trial, and in a few fathoms driving will cross Walker's lode at the junction, at which point we may meet with a good bunch of ore.

PERRAN CONSOLS.—J. Juleff, J. Nance, April 30: In No. 1 Hallett's engine-shaft men have completed the 40 plat, and commenced to drive the 40 end west in a lode worth 5l. per fathom. No. 2 in the 30 fm. level cross-cut, driving south-west of Hallett's, to intersect the south part of the lode. No. 3 is the 40 west of flat-rod shaft; here the lode is 3 ft. wide, and worth 6l. per fathom. In No. 4 the lode in the 40, east of flat-rod shaft, is 5 ft. wide, and worth 14l. per fathom. No. 5 stope behind this end is worth 10l. per fathom. No. 6 stope behind this end is worth 7l. per fathom. In No. 7 the flat-rod shaft is commenced to sink below the 40. No. 8 winze, sinking below the 30, is worth 4l. per fathom.

PRINCE OF WALES.—J. Gifford, F. Phillips, April 28: The following was our setting on Saturday:—The 65 east to drive by six men, at 100s. per fathom; lode 2 ft. wide, worth 10l. per fathom—stent 3 fms. Two pitches in the back of the 77 west to four men, at 12s. 6d. in 1l. for two months. One pitch in back of the same level east by two men, for one or two months, at 13s. 4d. in 1l. A pitch in back of the 65 by 10 men, for one or two months, at 10s. in 1l. A pitch in back of same level, east and west of engine-shaft, by two men, for two months, at 13s. 4d. in 1l. We have in the whole 10 pitches working by 38 men, at an average tribute of 11s. 8d. in 1l. We hope to sample 130 tons of copper ore at our next sampling. There is no change to notice in the Silver lode. We are stoping by four men, and they are breaking saving work.

PRINCE OF WALES.—J. Gifford, F. Phillips, April 30: The lode in the 65 east is now about 10 ft. high, and is worth 10l. per fathom, and looking very promising. In the other parts of the mine there is no change to notice.

RHEIDOL.—J. Ridge, April 25: We continue to make good progress in sinking below the 10, and hope to get the shaft to the required depth in the course of the next fortnight. In the 10 west the part of the lode carried is composed of slate-spar, blende, and strings of lead ore; the end affords a likely appearance of improving.—Foxpath: We have cleared up the adit level, and shall commence to drive west towards the Imperial shaft with four men next week.

ROOKHOPE VALLEY.—Daniel Brown, April 27: I have set four men to put up a rise in the back of the 15, at 140s. per fathom, worth 20 cwts. lead ore per fm. I have had four men cutting north in the side of the old workings to prove the lode at this point to its full width; we have cut in 5 ft., which will yield 30 cwts. per cubic fathom. Nos. 1 and 2 stopes in the back of the 15 are set to four men each, at 47s. 6d. and 36s. per fathom, and will yield for lead ore 15 and 18 cwts. per fm. respectively. I suspended raising close to boundary the whole of last month, owing to not having sufficient appliances for dressing all the lead stuff we have been getting from this and other places in the mine; we resume raising again to-morrow. In the 25 the winze is down 11 fathoms on the underlie of the lode; this is now in the four-fathom limestone stratum, and is improved for lead ore, but is much harder. I have been greatly disappointed in the progress made in driving to open out the 42; I could not see why it was to take as high as 145s. per fathom. I have now got the price down to 90s., and have set 14 fms. at that; this 14 fms. will extend 3 fms. east of where the winze from the 25 is coming down; this end in the 42 is composed of pink fluor-spar, with a rib of lead ore. There is a great variation in the width of this every day from 1 to 6 in. wide, with other patches of lead ore for the width carried – 4 ft. The full width of the lode has not been proved at this point. I expect the plunger case and pole on the mine shortly, then we shall have the large steam-engine pumping in a few days, it being in working order. At surface the front wall on the high floors is up, and the kilns are nearly completed. I sampled 20 tons of lead ore on April 25. The new jiggers work well.

ROSEWALL HILL AND RANSOM UNITED.—W. Bugelhole, John White, April 30: The lode in the 80 fm. level, driving west of the engine-shaft, yields saving work for tin. In the back of this level, west of Ransom shaft, we have succeeded in reaching a portion of the old men's workings, which are turning out some very good tinstuff.—North Carbona: The lode in this carbona, in back of the 100 fm. level, is looking better than for some time past, and is 2½ ft. wide, worth 35l. per fathom. We have suspended the bottom for the present, and put all our force in the back, where we have our best lode. Nos. 2 and 3 crossings are worth 20l. per fathom; we may here state that during the past week we have holed to St. Ives Consols Mine, on No. 3 crossing, and find they are quite home to their boundary.—Middle Lode: The new flat-rod shaft is being sunk on this lode with a full pare of men, who are making good progress; we have not taken down any lode since our last report, but shall do so in the course of a week or two, when we will give you its size and value. The 10 fm. level, driving east of this shaft, is looking well, presenting a large tinny lode, worth 10l. per fathom, and letting out a large stream of water, which leads us to believe that we are approaching the junction of No. 2 caunter lode, where we expect to meet with a still better lode. The 16 fm. level, driving west of the cross-cut, is not looking quite so well as when last reported on; now 18 in. wide, and worth 5l. per fathom. The 16 fm. level east is holed to the flat rod shaft, and has thoroughly ventilated the workings to the west of it. The stopes in the back are worth 8l. per fathom.

ROSEWARNE UNITED.—E. Hosking, W. Bennetts, April 30: Since the water has been drained to the 90 we have set two pitches in the back of the same, one to four men at 7s. 6d., and one to four men at 12s. in 1l., the tributers to pay all costs. We have two pares of men clearing the stopes in the bottom of the level. The lode in the 34, east of Wellington's shaft, is 18 in. wide, and worth 4l. per fm. The lode in the rise above the 34 is 15 in. wide, producing good stones of copper ore. The lode in the winze sinking below the 22, east of Wellington's shaft, is 1½ ft. wide, and worth 4l. per fathom.

SOUTH CONDURROW.—J. Vivian and Son, H. Abraham, April 30: In the 82, west of King's shaft, the lode is 5 ft. wide, and worth about 35l. per fathom. In the 71, west of King's shaft, the part of the lode being carried is 5 feet wide, and worth 10l. per fathom. In the No. 3 winze, sinking under the last-named level, the lode is 5 ft. wide, and worth about 40l. per fathom. In the 61, east of King's shaft, the lode is 3 ft. wide, and worth about 10l. per fathom. In the rise over the 71, east of King's shaft, the part of the lode being carried is 5 ft. wide, and worth about 15l. per fathom. In the winze sinking under the 61, east of King's shaft, the lode is 5 ft. wide, and worth about 12l. per fathom. In the 20, east of new shaft, the lode is 1½ foot wide, and worth about 8l. per fathom. The stopes continue to produce tinstone of the same quality as for some time past.

SOUTH GREAT WORK.—S. J. Reed, April 29: The Orchard lode in the flat-rod shaft, now 7 fms. 4 ft. below the 25, is quite 2½ ft. wide, and worth fully 16l. per fathom; there is a general improvement in the character of the lode at this point, and bids fair to become much more productive. The lode in the 25 east is 4 ft. wide, opening up tribute ground. The lode in the 10, west of engine-shaft, is worth 9l. per fathom, and the ground easy for driving. A winze has been set to sink behind this end at 9s. in 1l. tribute. The tribute pitches are producing more than the usual quantity of tinstuff, with an equal percentage of tin.

SOUTH ROSKEAR.—W. Skewis, J. Brenton, April 27: The shaftmen have the last few days been employed in cutting ground to fix catches and putting on wing to main-rod to prevent the rods from falling in case of breakage. We shall see in a day or so if the plunger was formerly fixed at the 115. If so, we shall fix the new plunger there also, and drop a drawing-lift below for draining to lower levels. In the 80 east the water is more freely flowing from the breast of ground, and the probability is in favour of holing to the eastern mine before the estimated 6 fms. of ground, as shown by old plan, have been driven through. We are drawing tinstuff from this level, which is producing more copper than formerly. We expect to be in a position to burn with our new calciner by end of next week.

SOUTH TOLCARNE.—J. Vivian and Son, J. Paull, April 29: In driving the 20, north from the engine shaft, we are still meeting with floors of mineral, carrying blende and copper ore, although we calculated that we have yet some 2 or 3 fms. to drive to intersect Vivian's lode. The rock through which we are driving being so metalliferous seems to us to hold out a good prospect of our finding the lode a productive one for copper; we calculate that it may take us a month more to reach the lode. In the deep adit level cross-cut south the cross-course continues favourable for progress, and we think we shall reach the lode (Hickey's) at about the time stated in our last report. The engine is keeping the water out by working 2½ strokes per minute.

SUCCESS, RUSHY CLIFF, AND NANCY CONSOLS.—April 22: We are progressing very well at the shaft at Newton Pasture, north-west of the Nancy shaft, and the weather is all in our fovour. I make no doubt but that we shall be successful when we have sunk through the Dunstone to the white limestone beds, below which I consider the second bearing measure. The cross-cut at Nancy shaft is not through yet, but I expect them to break through into the vein every day. As regards the Rushy Cliff adit, we have discontinued it until we see the results of the sinking operations at Newton Pasture.

ST. AGNES CONSOLS.—W. Vivian, April 30: The ground in the engine-shaft sinking below the 60, to intersect Wheal Kitty flat lode, is of a beautiful killas—in fact, it is all that could be wished for the production of tin. According to the present speed of sinking, the shaft will be done to the 72 in three months, when we intend to drive a cross-cut south to intersect Wheal Kitty flat lode; and judging from the character of the ground now in the shaft, I fully believe the lode will be found very rich. At the 60 cross-cut, driving north to intersect Wheal Rock lode, there is no change to notice since last week.

TAMAR CONSOLS.—G. Rowe, April 25: The lode is improving in size going to the hill, being too large to carry in the drivage, with a very promising appearance. I am continually expecting to cut a good bunch of manganese every time in taking down the lode.

— G. Rowe, April 29: The manganese lode in the drivage east from the trial shaft, is improving both in size and character, being wider than the end of the drivage—composed of a very congenial capel and rich-class gossan, impregnated with oxide of manganese, altogether of a very kindly appearance going towards the hill.

TANKERVILLE.—A. Waters: No material change since last report. Full and setting report next week. To-morrow we sample 75 tons of lead ore.

THE QUEEN'S (Silver-Lead).—E. Evans, April 22: In the 140 yard level, according to your advice, I have abandoned the driving east, but before removing the men I thought it best to put them to cut a cross-cut to search for the hanging side of the lode, hoping to meet with ground that will encourage me to continue the driving, as this is one of the principal points in the mine. In the 120 yard level the men are making good progress, but no change in the ground since my last report. The 80 yards level has been poor for lead this last week, but is improving now; the joint has widened to 18 in., composed of limestone and spar on the footwall, and 6 in. of clay with stones of solid lead by the hanging side. In the 140 yard level, driving west from Cambrian shaft, the men are making fair progress; the lode is wide, and produces little calamine, but no lead. I have been informed by good authority, that there is a north and south joint coming towards us from the shaft in the quarry above, where a few tons of lead has been got; it appears to me that 7 or 8 yards driving on this level will intersect this joint, in which junction I expect to get lead; by the present appearances of the ground, four men can drive 8 yards per month. I would suggest several points that are advisable to work upon:—1. To drive the 140 yard level through to the Cambrian shaft. I call this a trial for lead, and necessary to ventilate the mine to work below the 140 yard level. —2. Clear the sump, which is a little west from Gladstone shaft, and below the 140 yard level; tons of lead have been got from this sump, but the air was too bad at the time to work upon it, and has been abandoned.—3. To drive the 80 yard level on the main lode to the east.—4. To open the old shaft on the Seven Stars lode, the shaft that is in a corner, with wall nearly round it.—5. To cut about 2 yards cross-cut from a shaft that is above the old tramway (say, north side) to a joint that runs parallel with the Pant y ne lode.

April 29: Since my last report I have abandoned the east driving on the 140 yard level, and turned the men to cut a cross-cut into the hanging side of the lode, but of no good effect; I will to-morrow remove the men to drive west on same level. In the 120 yard level the lode is improving, it is 4 ft. wide, showing ribs of lead about half-an-inch thick; in cutting through the ground it appears very good, being an indication for the better. The 80 yard level has been poor for lead since I last wrote you, but this aftternoon we have cut into ribs of solid lead 4 in. wide on bottom of the level. The 140 yard level, west of Cambrian, in my opinion, is improving for lead, the ground is more solid, spar of better character (not so yellow and sandy), and made away with the calamine.

TREGARDOCK.—J. and T. Spargo, April 22: The lode in the stopes in the back of the deep adit level, driving on No. 2 lode, continues as last reported. The lode in the forebreast also continues to look well; we have some small strings of spar intermixed in the country by the side of the lode, which we consider indications of being near the junction. The mine throughout is looking well.

TRELEIGH WOOD.—E. Hosking, W. Goldsworthy, April 29: As the water was in the bottom of the mine last week there has not been much done, consequently there is no change to notice. We are pleased to say, however, that the water is again in fork and all the bargains working. The lode in the 44, west of engine-shaft, is still worth 25l. per fathom. The lode in the 44, east of the cross-course, is much the same as last reported, but letting out more water; we anticipate this will drain the 34, east of the cross-course, and, if so, we hope soon to be able to commence sinking a winze in the good tin ground standing in the bottom of the level. The stopes throughout the mine are looking much the same as when last reported.

TREVARRACK.—J. Pope, April 28: We have drained the water to the bottom of the mine, and commenced cutting a plot at the 60 fm. level, which I expect will be completed by the end of the present week, when we shall commence sinking the engine-shaft below that level at once. I am glad to say the engine and pitwork are in good working order, and I have engaged an able pare of sump-men to sink the engine-shaft with all possible speed, so that no time shall be lost in developing the mine with dispatch.

TYLLWYD.—J. Paull, April 30: The ground in the cross-cut south of engine-shaft is much harder than it has been. We have a joint on the western side in which there is some nice spar and cubes of lead ore. This I consider to be a very good indication of the lode being good before us. I do not think we shall be long before we intersect the same, as we have now a little water issuing from the present end: we have not seen any before since we started. We have now set on four men in the middle level driving south-west, on a branch going in this direction, which is 2 ft. wide, containing some very good lead ore. This we shall push on in order to prove this point, and if it is productive, and continues in the same direction as it is now, we can soon reach it from our present engine-shaft, where we have all necessary appliances to lay the same open in the most economical manner. We shall put two men to sink a few feet in the old winze in a day or two. We are now busy on surface erecting pulley-stands, &c., for drawing-machine. We started the 40-ft. wheel on Saturday evening last, which went off all right—in fact, nothing could be better. The drawing-machine will soon be attached to same, when we can dispense with the three men that are now employed in drawing stuff with the tackle or remove them elsewhere. Everything is being urged on as fast as possible.

VAN CONSOLS.—J. Roach, W. T. White, April 30: Gundry's engine-shaft is being sunk as fast as possible, and is now 6 fms. under the 15. We cannot speak of any alteration in the lode in the 15 east, which is still producing 6 tons of lead per fathom, or thereabout. The lode in the winze sinking under this level has greatly improved since last week, and is now yielding upwards of 8 tons of lead per fathom, and we would remark that the lode possesses every indication of continued great productiveness. We are now fixing stull preparatory to stoping the ore in the 15, which is nearly complete. No change in the other stopes since referred to in last report. The lode in the 30, west of the main shaft, is spotted with lead. Dressing of all other work vigorously carried on. We shall sample another parcel of lead in a fortnight hence.

VAUGHAN.—April 28: Engine-Shaft: In the 32 fm. level east the part of the lode being carried is 1½ yard wide, chiefly composed of a blue clay-slate, carbonate of lime, containing spots of lead and blende, but not of any value. In the 32 west the lode is large, chiefly composed of a light clay-slate, carbonate of lime, spar, and branches of lead ore, yielding ore of a fair quality. In the deep adit level east the lode is large, chiefly composed of a light clay-slate, carbonate of lime, and spar; ground easy for progress. Pumping-wheel and pitwork in good working order.

WEST GODOLPHIN.—J. Pope, jun., April 25: Caunter Lode: Pressure shaft-men have during this month fixed the lift at the 40; we have now to put down a new piece of main-rod and rolls to carry it, also some other jobs of work in the shaft for working the bottom lift; this I calculate will all be done next week, when we shall be in a position to sink for the 60 fm. level without further delay. The lode in the 50, driving north-west of Pressure shaft, is 3½ ft. wide, worth 35l. per fathom, and letting out a large stream. The lode in the 40, driving north-west of Pressure shaft, is 18 in. wide, worth 5l. per fathom. The lode in the 20, driving south-east of Pressure shaft, is 15 in. wide, saving work for tin—ground hard. The lode in the deep adit level, driving south east of Vivian's shaft, is 2 ft. wide, producing a little copper ore. Two stopes in the back of the 50, south-east of Pressure shaft, lode 4 ft. wide, worth 8l. per fathom.—Pink Lode: The lode in the 50, driving east of the caunter, is 1 ft. wide, worth 15l. per fathom. The lode in this level, driving west of the caunter, is 1 ft. wide, producing rich stones of tin. The lode in the winze sinking in the 40, west of the caunter, is 1 ft. wide, worth 10l. per fathom. I am hoping that we shall be able to communicate this winze with the 50 fm. level next week, when we shall be in a position for stoping the tin ground standing west of the caunter. I am pleased to say that the mine never looked better for tin than at present. I think we shall have 9½ tons of tin ready for the market against next Saturday.

WEST GODOLPHIN.—J. Pope, jun., April 29: The caunter lode in the 50 fm. level, north-west of pressure shaft, continues to open out first-rate, quite as good as when last reported. The other parts of the mine are also without change.

WEST GOGINAN.—J. Kitto, April 27: The improvement in the 12, west of engine shaft, referred to in my last report, still continues, and the lode is looking well, being about 5 ft. wide, and containing good ore for the whole width. The character of the ore is, as stated in my last, the same as that discovered in the adit level some months ago, and I have now little or no doubt that it is a continuation of the same bunch, and that it will be found much longer here than in the adit. I am expecting to communicate the 12 east with the winze sinking below the adit level in a very few days, when we shall immediately prepare for resuming the sinking of the engine shaft for a deeper level, as I consider the present prospects in the 12 west will fully justify this course. I have no change to report from any other part of the mine.

WEST GREAT WORK.—S. J. Reed, April 30: The Trescow Moor lode in the flat-rod shaft is 2½ ft. wide, and presents a better appearance than at any point during the sinking of the present sump; some of the large rocks broken from it are rich in tin, and the prospects generally are of a highly promising character, worth 18l. per fathom. The lode in the 26 drivage west is now regular and well defined, and worth 11l. per fathom; this end is within 4 fms. of the best shoot of tin driven through in the level above. In the 26 east the lode contains fair quality tinstuff for the stamps. The rise in the back of the level to meet the winze from the 16 will be communicated in three or four days; this will open up sections of tribute ground which can be worked from 8s. to 9s. in 1l. The north lode in the 10 has been opened on 2½ fathoms, and the appearances are favourable for making valuable discoveries when further developed. At the setting on Saturday, new tribute pitches were taken at 10s. in 1l. Our surface work progresses favourably.

WEST MARIA.—Wm. Skewis, N. Coward, April 30: The ground in Willesford's shaft, sinking below the 93, is freer from quartz than it was last week. We are glad to inform you that the lode in the 93 west has improved, and is now worth 35l. per fathom for copper, and has a very strong and masterly appearance. The stopes and all other points underground and at surface are the same as stated in last report.

WEST WHEAL GORLAND.—J. Mayne, April 30: The operations on the south side are without any alteration to remark on since the meeting.—Messer's: The lode in the shaft is increasing in size, and looks very promising. We are not yet deep enough for the bunch of tin in the western bottoms, as it is dipping east. The men are making good progress in fixing the lift in the western bottoms, and we hope to put it to work on Saturday to fork the water, so as to enable us to commence operations on the bunch of tin referred to in the last report. Good progress is also being made in driving the cross-cut north.

WHEAL COATES.—W. H. Martin, April 30: Saturday at our pay we set to the shaftmen to complete their bargain at 29l. per fathom, by 12 men. The last 2 ft. the ground is a little better for sinking, and we hope to make greater progress. The 20 end west to drive on the north part of the lode by six men, at 7l. per fm., worth 10l. per fathom. A winze to sink below the 20 by six men, at 12l. per fm.; worth for tin 12l. per fathom. A stope in the back of the 20 west from ladder winze by six men, at 5l. per fathom; worth 8l. per fathom. Two stopes in the back of the 20 east and west from No. 2 winze by 10 men, at 10l. per fathom; worth for tin 8l. per fathom.

WHEAL CREBOR.—J. Goldsworthy, April 29: The ground in the 120 east is somewhat stiff for progress, there being a mixture of spar by the side of the lode. This we regard as a favourable indication for copper ore. We shall blast in the piece of lode, now standing, to morrow. In the stope east of the rise in back of the 120 the men are taking down the lode, which is worth 30l. per fathom. The men are desuing the lode in the stope west of the rise; lode worth from 20l. to 25l. per fm. In the 108 east the men have finished taking down the lode, which is from 3½ to 4 feet wide, composed of capel, mundic, and a mixture of killas and copper ore, producing of the latter from 3½ to 4 tons per fathom. These men are placed to put up a rise in the back of this level for the proof of the lode, and to lay open stoping ground. This rise will in some measure guide us respecting the 72 cross-cut; the lode is worth 20l. per fathom. The lode in the 48 east is 4 ft. wide, com of capel, mundic, with good stones of copper ore. It has a good healthy appearance. No other change to notice. We hope to complete the repair of skiproad by Friday. We have to put in 35 fathoms of road above the 72. A part of the 72 and 120 levels men are engaged on this work.

WHEAL GRENVILLE.—E. Hosking, W. Bennetts, April 25: Setting Report: The shaftmen are now engaged cutting bearer-holes for cistern, and making preparations for fixing a plunger-pole at the 150. The rise above the 150, on South Condurrow lode, is set to four men, at 16l. per fathom; the lode is worth 20l. per fathom. The stope above the 140, east of cross-cut, by four men, at 6l. per fathom; the lode is worth 30l. per fathom. To rise above the 140, east of cross-cut, by four men, at 15l. per fathom; the lode is worth 25l. per fathom. The north shaft is being sunk below the 120, by six men, at 16l. per fathom, and is down 6 fms. 1 ft.; the lode is 2½ ft. wide, and worth 10l. per fathom. To stope above the 120, east of north shaft, by four men, at 2l. 10s. per fathom; the lode is worth 10l. per fm. To stope above the 120, west of Faull's winze, by three men, at 3l. 15s. per fm.; the lode is worth 14l. per fathom. To drive the 100, east of north shaft, by two men, at 5l. per fathom; the lode is 2 ft. wide, and worth 8l. per fathom. To drive the 120, east of north shaft, by four men, at 7l. 10s. per fathom; the lode is 2½ ft. wide, and worth 10l. per fathom.

WHEAL KITTY (St. Agnes).—S. Davey, J. Williams, April 25: New Shaft, Pryor's Lode: We are pushing on the sinking of this shaft below the 142 as fast as practicable. No lode has been taken up in the 142 driving east during the week. In the 142 driving west of shaft we have the capels of the lode to the south of the gossan, and hope in the course of a week or two to have the lode fully in the end. The lode in the 130 driving west of shaft is worth for tin 12l. per fathom—a promising lode. There is no change to notice in the 130 fm. level driving west since last report. The lode in the 118 driving west of shaft is worth for tin 10l. per fathom. The lode in the 106 driving west of shaft is worth for tin 10l. per fathom. In the 20 driving east of shaft the lode is improving as it gets out of the influence of the cross-branches. The lode in the north adit level driving west of eastern boundary is much the same as for some weeks past.

WHEAL RUBY.—J. Richards, April 29: The lode in the adit level driving west is opening larger, and is composed at this time of quartz, prian, peach, and caples, but not yet rich for tin; a cross-branch has just intersected the lode, and beyond it the lode seems to have changed. I hope we are now through these crossings, and that the lode will be more settled and productive for mineral. The character of the country rock is just as it has been for some time, and we are pushing on with the driving as fast as the nature of the ground will allow us.

WHEAL UNY.—W. Rich, M. Rogers, S. Coade, jun., April 25: The ground in the 30 cross-cut north is easier for driving, and intermixed with branches of copper. The 40, west of inclineline shaft, yields a little tin. The 80, east of King's, is worth 5l. per fathom. We are clearing the run in incline shaft, below the 90, as fast as possible. The 100 end, east of King's shaft, yields stones of tin. The 110 end east is worth 6l. per fathom. The 120 east is worth 5l. per fathom. The 130 east is worth 8l. per fathom. The 140, east of Goodinge's, is worth 6l. per fathom. The rise in the back of the 150, towards Goodinge's shaft, is yielding low quality tinstone. The 160, east of engine-shaft, is worth 12l. per fathom. The 160 west is worth 8l. per fathom. We have to-day sold 15 tons 2 cwts. 2 qrs. 25 lbs. of tin.

WHEAL WHISPER.—J. Moss, April 21: We have had a rib of quartz crossing our stope, producing lead and occasional rich stones of tin, so that we have had to exercise a little care in selection to keep the lead out of our batch; I do not think we are much injured by it as yet. We clear up next week, and the batch seems coming on much the same as last. Stopes looking about the same. In other respects, machinery and all else working well.

WHITEHAVEN IRON.—Thos. Rosewarne, April 29: No. 4 drift has greatly improved the last day or two; the vein of ore is fully 5 ft. wide, and will yield 40 tons of the best quality ore per fathom. I have a very good opinion of the lode in this drift, and fully believe that we are getting into a run of good ore ground; we have four men in the drift at present, but will put on two more as soon as possible. No change in any of the other drifts since my last. The stopes are all looking well. About 219 tons have been carted to Drigg during the past fortnight.

WILLOUGHBY.—H. Nottingham, April 28: The 23 fm. level, going south on new lode, bears much the same character as I reported it a month ago, producing from 1 ton to 1½ ton of blende, and ½ ton of lead per fathom—a very strong lode, with a mixture of ore throughout. There is evidently a change ahead of us, which is indicated by a strong outflow of water from the end and bottom of the level. Two fathoms more driving would bring us up to the junction of this and the caunter lode, south of which I expect to see a good bunch of ore. I have started a stope in the back of this level, between the end and the winze connecting this with the 13, which is producing about the same as the end. The 23, going north on new lode, has not yet reached the junction of this and Goddard's lode, though we are far enough by the average bearing of the lode. Should we not find a more productive lode at this point when reached I shall suspend this driving, and drive on the cross-cut, to cut the caunter lode, with a full set of men. I calculate we should reach the lode here in 2 fms. more driving. The rise going up opposite shaft is producing saving stuff for lead and blende. The stope going north from winze, south of the shaft, at the 13, is now over this rise, so that I expect we shall have the rise through to the 13 in less than two months. The 23, going south on Goddard's lode, is poor for lead. The winze from the 13 fm. level, being deep enough for the 23, we have stopped working in the bottom, and the men are set to stope away some ore ground south of the winze. The stopes north and south of shaft, on new lode, below the 13, are yielding about the same quantity of lead and blende as for some time past. I hope to sample 20 tons of lead next week, and I expect our next sampling of blende will be 40 tons, as we have a considerable quantity of stuff now on the floors.

The bank of the new reservoir is completed, and a few days will complete the water-courses connected with it. The very dry weather we have is sinking the water in the reservoirs very fast.

IMPERIAL BRAZILIAN COLLIERIES.—The half-yearly interest, at the rate of 10*l.* per cent. per annum, on debentures of the Imperial Brazilian Collieries (Limited), due on the 6th inst., will be payable on and after that date at the company's bankers, Messrs. Fuller, Banbury, and Co., Lombard street.

CHAPEL HOUSE COLLIERY.—The output for the past month, as well as the profits, have been up to the usual standard, and everything going as satisfactorily as the shareholders could wish. Notwithstanding the fluctuations in the price of coal, all good collieries, as in the case of Chapel House, are making large profits; while any improvement, which must come sooner or later, would tell greatly in their favour. The Chapel House Colliery has just paid a dividend at the rate of 15 per cent. per annum for the March quarter, carrying over a sufficient balance of profit to pay two more dividends at the same rate. This, considering the short time the company has been in operation and the present position of the colliery, should be very satisfactory, while the good names of the directors are a guarantee for a careful management of the collsery, which under existing circumstances bids fair to prove a first-rate investment for many years to come.

BEDFORD UNITED.—The sale of copper from this mine on April 23 is the produce of four weeks, and leaves a profit of 150*l.*

THE PATENT SAFETY BLASTING POWDER.—The following description is given of the manner in which a patent safety blasting powder is now manufactured in South Australia. Operations are carried on at Alberten in a weather-board building, roofed with galvanised iron. The length of the whole is but 28 feet, with a width of 14 and a height of 10 feet, and it has one small window and a door on the western side. The first operation of a series of experiments tried to test the efficacy and safety of this powder was performed by the worthy manager pounding for a considerable time some of the powder on an axe-handle with an ordinary hammer, without producing the slightest effect. Next, its character as proof against friction was demonstrated by the same appliances, and with an equally satisfactory result. Its superiority as a non-explosive article was next determined by a number of vessels being filled and ignited, when a considerable time elapsed before the powder was consumed and the flames died out. A common mustard tin, 6 in. by 3¼ in., and containing 2 lbs. of the compound, was first used, the ascertained time before its contents were entirely consumed being about half a minute. Next an iron pipe, 16 in. by 1½ in., with 2¼ lbs. of powder, was found to occupy one minute and eight seconds in burning, the orifice being smaller. Another pipe, 6 in. by 1½, and containing half a pound of powder, took twenty-five seconds in exhaustion.

*** With this week's Journal a SUPPLEMENTAL SHEET is given, which contains—Prof. Huxley's Lectures on "Phenomena of Life as Motion and Consciousness," at the Royal School of Mines—Foreign Mining and Metallurgy—Cape Breton Marble Mountain—Applied Geology and the late Prof. John Phillips—Refining Lead—Yorke Peninsula Mining Company (R. Sanders)—Mining Industry of Utah—Patent Matters—Meetings of the Tharsis Sulphur and Copper, Mammoth Copperopolis, Canadian Titanic Iron, Chontales Consolidated, Cefn Brwyno, Roman Gravels, Queen's Silver Lead, Wheal Mary, Ladywell, West Tolgus, Great East Foxdale, North Treskerby, North Frances, North Crofty, and Scottish Australian Mining Companies.—Original Correspondence: Cape Copper Mining Company; Mining on the Pacific Coast, No. II. (J. P. Clough); Gold Industry of Nova Scotia; Kalosic Gas (H. C. Bartlett, J. Quick and Son, I. Biggs); Committee on Explosives; Great Laxey Mining Company (G. W. Dumbell); On Tin Stamps, and the Future of Cornish Mining (N. Ennor); Death of the Great Wheal Vor United &c.; Notes on Lead Mining in Cardiganshire, No. II. (A. Francis); Metalliferous Mining in the Highlands (J. Campbell); Miners' Pay—the Thirteen Months System; Proceedings at the West Seton Meeting; Remarks on the "Original Correspondence" in the *Mining Journal*; Bampylde Mine; West Wheal Lucy; Llynvi Colliery Company; Australian Mining Companies, &c.

The Mining Market: Prices of Metals, Ores, &c.

METAL MARKET—LONDON, MAY 1, 1874.

COPPER.	£	s.	d.	£	s.	d.
Best selected...p. ton	84	0	0–	85	0	0
Tough cake and tile.	82	0	0–	83	0	0
Sheathing & sheets...	90	0	0–	92	0	0
Bolts	96	0	0–	98	0	0
Bottoms	95	0	0–	97	0	0
Old	80	0	0–	85	0	0
Burra Burra	82	0	0–	83	0	0
Wire .....per lb.	0	1	0¾–	—		
Tubes	0	1	0½–0	1	1	

BRASS.	per lb.
Sheets	10d.–11d.
Wire	10¼d.–11d.
Tubes	11d.–12d.
Yellow metal sheathing	8d.–8¾d.
Sheets	7¼d.–8d.

SPELTER.	per ton.					
Foreign on the spot..	21	10	0–22	0	0	
,, to arrive ...	21	15	0–	—		

ZINC.						
In sheets	28	0	0–	—		
QUICKSILVER (p. bot.)	19	15	0–	—		

TIN.						
English blocks ...	£102	0	0–	—		
Do., bars (in brls.)	103	0	0–	—		
Do., refined	104	0	0–	—		
Banca	100	0	0–	Nom.		
Straits	96	0	0–	97	0	0
Australian	94	0	0–	—		

TIN-PLATES.*	per box.					
IC Charcoal, 1st qua.†	£1	16	0–	Nom.		
IX Do., 1st quality ...	2	0	0–	,,		
IC Do., 2d quality ...	1	15	0–	,,		
IX Do., 2d quality ...	2	1	0–	,,		
IC Coke	1	10	0–	,,		
IX Ditto	1	14	0–	,,		
Canada plates, p. ton..	19	0	0–	—		
Ditto, at works	18	10	0–	—		

IRON. per ton.	£	s.	d.	£	s.	d.
Bars Welsh, in London	11	0	0–11	10		
Do., to arrive	10	10	0–	—		
Nail rods	11	10	0–	—		
,, Staffd. in London..	12	0	0–14	0	0	
Bars ,, ditto	11	10	0–14	0	0	
Hoops,, ditto	12	10	0–14	0	0	
Bars ,, at works	10	10	0–11	10	0	
Hoops,, ditto	11	10	0–14	10	0	
Sheets, single, & plates	13	10	0–15	0	0	
Pig No. 1, in Wales ...	5	0	0– 6	10	0	
Refined metal, ditto ...	7	0	0– 8	0	0	
Bars, common, ditto...	9	10	0–	—		
Do., merchant, f.o.b. in Tyne or Tees...	10	5	0–11	0	0	
Do., railway, in Wales..	8	10	0– 8	15	0	
Do., Swed. in London.	18	0	0–	—		
To arrive	17	0	0–18	0	0	
Pig, No. 1, in Clyde ...	4	0	0– 4	10	0	
Do., f.o.b. Tyne or Tees	4	10	0– 5	10	0	
Do., Nos. 3, 4, f.o.b., do.	—	–	–	—		
Railway chairs	5	0	0– 5	5	0	
,, spikes	12	10	0–14	0	0	
Indian Charcoal Pigs, in London, p. ton ...	10	0	0–12	0	0	

STEEL.	per ton.					
Swed., in kegs (rolled)	—	–	–	—		
Ditto (hammered).....	20	10	0–21	10	0	
Ditto, in faggots.....	21	15	0–	—		
English, spring	23	0	0–25	0	0	

LEAD.	per ton.					
English Pig, com.	20	5	0–20	10	0	
Ditto, L.B.	20	10	0–	—		
Ditto, W.B.	23	0	0–	—		
Ditto, sheet	22	10	0–	—		
Ditto, red lead	23	0	0–	—		
Ditto, white	30	0	0–32	0	0	
Ditto, patent shot	26	0	0–26	10	0	
Spanish	19	15	0–20	0	0	

* At the works, 1s. to 1s. 6d. per ton less. † Add 6s. for each X.
Terne-plates 2s. per box below tin-plates of similar brand.

REMARKS.—The past week has been unproductive in business in metals generally. A slight speculative movement became discernible in copper towards the close of the week, but with this exception trade has been dull. Bank rate was advanced from 3½ per cent., at which it was fixed on Jan. 15 last, to 4 per cent. on Thursday, and it seems probable that money may be in demand for some time to come, and present rates maintained. No permanent improvement in the metal market can be expected until the great question of the day connected with wages and fuel shall have been settled upon a permanent basis. From present appearances, it would seem that consumers at home, as well as shippers, are alike staying their hands until the disorganisation which strikes and lock-outs have occasioned in the trade shall have given place to a more happy condition of affairs.

COPPER.—The market opened quiet on Monday, and rather lower prices were accepted for Chili bars; g.o.b. changed hands from 74*l.* 10s. to 73*l.* 15s.; Walla oo, 85*l.* 10s.; and Burra, 83*l.* cash. The Swansea ticketing was announced on Tuesday, the price for 1363 tons, showing an average of 14s. 6d. per unit, the produce being about 19⅞ per cent.; Cape produce realised 15*l.* The market for Chili bars was quiet, g.o.b. was quoted 73*l.* 10s. cash; Wallaroo sold at 85*l.*, and Burra as on previous day. On Wednesday an improvement was observable, and a fair business was concluded in g.o.b. at 74*l.* Burra declined 10s. The improvement of Wednesday was fairly maintained; on Thursday business was done at 73*l.* 10s. cash for Chili bars and Wallaroo; with three months prompt, 84*l.* 10s. There has been a good deal more done to-day, but it is very questionable whether the activity observable at the moment can be maintained. Copper is not in active demand for the purpose of consumption or shipment, and the movement seems to have the character of an evanescent speculation, which may probably disappear as suddenly as it has appeared. In the face of the heavy charters which have been from time to time announced of late, the copper represented by them being about to arrive, and also then being so small a demand for the purpose of trade, there does not appear to be any substantial reason why a speculative movement at the moment should be permanently supported. English descriptions are quiet; tough is quoted 83*l.*; best selected, 85*l.*; India sheeting, 90*l.*; and strong, 92*l.* to 93*l.* Yellow metal, 8d. per lb.

IRON.—The report from Middlesborough of the iron trade presents some features of slight improvement. There is a little more doing in pig-iron than has been the case of late, but production far exceeds the demand, notwithstanding that several furnaces have been put out of blast. Makers, upon the strength of the temporary demand and their hopes for the future, are firm in their quotations, and prices now asked are in advance of those of last week by about 2s. 6d. per ton. No. 1, 68s. to 69s.; No. 3, 62s. to 63s.; and No. 4, 57s. 6d., usual terms, f.o.b. in the river or on trucks at the works. The Scotch demand still affords a measure of support to the market, but there is hardly anything being shipped for the Continent. There are orders for rails for foreign and colonial account, but the price is too high for more than a sprinkling to be given out. Some small orders for Russia have been taken, but not to any important extent. With a view of obtaining contracts, some of the North Country makers have been quoting below current rates, but hitherto without eliciting any favourable response. The ordinary quotation for rails is about 9*l.* 2s. 6d.; ship plates, 11*l.*; merchant bars, 10*l.*; puddled bars, 5*l.* 17s. 6d. There is a disposition on the part of the men employed in the iron trade to meet the masters in the matter of wages, and thus arrange this difficulty, but the ironworkers are dependent upon the colliers, and it seems more than probable that serious difficulties may arise with pitmen, which will have the effect of utterly paralyzing the iron trade, for without fuel the ironworks must necessarily be at a standstill. A meeting has been held during the week of the Cleveland mineowners and the ironstone workers. The masters propose a reduction in wages of 12½ per cent., and if the men are willing to accept these terms well and good, but if they determine upon referring the matter to arbitration the masters declare their intention of demanding a yet further reduction. A meeting of the men is to be held that the subject may be considered.

The feature of the week in the Cleveland district is a strike at the works of Bolckow, Vaughan, and Co., which has necessitated the stoppage of five blast-furnaces, two of which have remained damped down. A large number of workmen are, consequently, thrown out of employ. The men declare the reason of the strike to be that they are determined to resist the masters in their attempt to reduce the wages more than 10 per cent. There are other works in this district which are similarly circumstanced, and there is a probability that if this further reduction be insisted on more blast furnaces will be blown out, and the make of iron become materially reduced. Whether from the probability of decreased production, or from other causes, the pig iron market has shown a tendency towards firmness. Enquiries as the week drew to a close became more frequent, and transactions have resulted therefrom. There are indications of improvement in the finished iron trade, although at present actual business has not confirmed the expectation that an active demand will spring up. It is not questioned that there are orders in the market, but the doubt is as to the orders being given out at current quotations. This problem is not very difficult of solution. So long as the foreigner can supply a good article to the buyer at a cheaper rate than the English manufacturer, the latter is not likely to secure many orders, and the fear is that buyers long accustomed to deal with English houses may be tempted to transfer their orders permanently to foreign houses. An opportune letter has just been addressed by Sir George Elliot to the coalowners and their workmen in the county of Durham, and will be found in the weekly report of our local correspondent. The letter is so much to the point that it is earnestly to be hoped that whether in coal or iron disputes the advice contained therein may be adopted, and thus a great evil averted.

The Scotch Pig Iron Market closed on Monday last at the price reported in our last issue, 77s., but on Tuesday an advance was effected, and business was done from 77s. 6d. up to 79s., the market closing at the best. On Wednesday, however, prices, after an advance to 79s. 9½d., receded to 76s. 3d. sellers, buyers 3d. under. Thursday's market was flat; transactions took place from 75s. to 74s., but the market rallied at the close to 75s. 9d. To-day the market has been strong, and business has been done 77s. to 78s. closing buyers 77s. 6d.

SHIPMENTS.

Week ending April 26, 1873	Tons 12,996
Week ending April 25, 1874	8,771
Decrease	4,225
Total decrease since Dec. 25, 1873	68,507

LEAD.—This metal attracts no attention at the moment; good soft English pig is obtainable at 20*l.* 5s., and soft Spanish 5s. under.

SPELTER.—There is hardly anything doing in this metal, and notwithstanding that the stock in London, which used to stand at upwards of 1000 tons, is now reduced by the last return, dated April 30, to 92 tons, this fact does not appear to exercise the slightest effect upon demand in price; Silesian, 20*l.* 5s. to 21*l.* 10s.; English, 22*l.* 15s.

ZINC.—Of 160 tons London rolled 120 tons sold at 25*l.* 10s. to 23*l.* 7s. 6d.

QUICKSILVER.—Very little doing, and prices remain unaltered.

TIN.—The market opened quiet on Monday. Straits nominally 97*l.* to 98*l.*; Australian, 94*l.* to 95*l.* On Tuesday no business transpired; nominal quotation for Straits as before: English ingots, 100*l.* to 103*l.*; bars, 102*l.* to 104*l.* On Wednesday one or two parcels of Straits changed hands 96*l.* to 97., and Australian 93*l.* On Thursday a small business in Straits was done at 96*l.*, Australian, 93*l.* to 94*l.* To-day the market is very undecided. Consumers decline taking any quantity in consequence of the tin-plate works being stopped. Straits nominally 96*l.* to 97, and Australian 94*l.*

TIN-PLATES.—The lock-out still continues, and there is no change to report in the position of tin-plates.

COPPER—Messrs. J. Pitcairn Campbell & Co., Liverpool, April 30).—Business transacted during the fortnight comprises about 5000 tons bars at 73*l.* to 77*l.* per ton, and 570 tons regulus at 15s. per unit. Arrivals here during the fortnight of West Coast, S. A. produce:—Potosi, from Valparaiso, 495 tons bars and 80 tons ingots; Malacca, from Valparaiso, 34 tons bars; Corcovado, from Valparaiso, 700 tons bars; Cecilia, from Valparaiso, 35 tons bars; Our Queen, from Valparaiso, 40 tons bars. At Swansea:—Standard Bearer, from Pan de Azucar, 765 tons ores; Foxhound, from Pan de Azucar, 680 tons regulus. Stocks of copper (Chilian and Bolivian) in first and second hands, likely to be available, we estimate at:—

	Ores.	Regulus.	Bars.	Barilla.
Liverpool	2123	1620	14,415	70
Swansea	4723	4594	1,896	—
Total	6846	6214	16,311	70

Representing about 20,500 tons fine copper, against 20,100 tons April 30, 1873; 13,700 tons April 30, 1872; 24,400 tons April 30, 1871.

Messrs. James and Shakspeare.—COPPER: Bars were depressed during the early part of the week, and considerable anxiety evinced by some holders to realise, which caused values to decline to 73*l.* cash for good ordinary brands; this price, however, attracted the attention of buyers, who came forward on Wednesday and took all that was offering at about the above-mentioned figure, since when 74*l.* has been paid for a fair quantity, and the market closed yesterday with very few sellers thereat. In Australian the business has been very small. Some Burra sold at 83*l.*, and a small quantity of Wallaroo at 85*l.* 10s. cash, but the latter sort is still scarce for the reason which we have previously stated. For English a somewhat better enquiry has existed, though for the most part at prices below what holders will accept.—TIN: English is quoted at about 3s. to 4s. lower, but the smelters are not anxious for orders, being still full of work and unable to give very prompt delivery. Foreign sorts have been almost neglected, and values show a further reduction of about 2s. to 3s. per cwt., from those ruling on the 24th ult., the sales reported were very small, and prices of same ranged from 98s. to 95s. for Straits, and 95s. to 93s. for Australian.

Messrs. Henry Rogers, Sons, and Co.—COPPER: The inflation last week received a severe check on Monday upon receipt of the West Coast telegram advising charters to April 2 as 2500 tons for the second fortnight in March, making 13,000 tons for the quarter, against 9700 tons in the corresponding quarter of 1873. Bars, which had been 76*l.*, receded to 73*l.* 10s.; Wallaroo, for which 86*l.* had been demanded, changed hands at 85*l.*; and some considerable quantities of Burra were taken for home consumption and the East at 83*l.* For English copper, both raw and manufactured, the demand has been very slack throughout the week, and in yellow metal there has been but little doing.—TIN: Straits, after reaching 100*l.*, and Australian 101*l.*, have been dealt in at 96*l.* and 93*l.* respectively. In English there has been a very large trade, but the demand has now ceased; the smelters, however, hold for very high prices still.

CHEMICALS AND MINERALS—(Messrs. R. R. Kelly and Co., Manchester, May 1).—Chemicals: Acid, citric, 4s. 5½d.; muriatic, 4*l.* 10s. to 8*l.*; sulphuric, 3*l.* 10s. to 6*l.*; tartaric, 1s. 7d. to 1s. 7¼d.; alum, best lump, loose and in barrels, 8*l.* 10s. to 9*l.*; ground, 9*l.* 10s.; cake alum, 6*l.* 10s.; ammonia, carbonate, 7½d. to 7¾d.; muriate, 32*l.* 10s.; sulphate, white and grey, from 17*l.* for 23 per cent. to 17*l.* 10s. for 25 per cent.; brown, 23 per cent., 15*l.*; sal ammoniac, 44s. to 45s.; arsenic, white powdered, 10*l.* to 10*l.* 5s.; benzole, 30 per cent., 2s. 3d.; 90 per cent., 3s.; bleaching powder, 10*l.* 10s. to 10*l.* 15s.; copper sulphate, 27*l.* 10s. to 28*l.*; green and rusty copperas, 60s. to 62s. 6d.; Epsom salts, refined, 5*l.* 15s. to 6*l.* 5s.; potash salts, bichromate, 6½d.; pots, 35s. 6d.; pearls, 47s. 6d. to 48s.; chlorate, 1s. to 1s. 1½d.; muriate, 80 per cent., 7*l.* 10s. f.o.b.; red prussiate, 2s. 6d. to 2s. 8d.; yellow prussiate, 1s. 1½d. to 1s. 2d.; tartrate (cream of tartar), French, 5*l.* 11s.; saltpetre, 29s. 6d.—Soda Salts: Acetate, 37*l.*; bicarbonate, 16*l.* 15s.; borate (borax), refined, 75*l.*; soda ash, 48 to 50 per cent., 2¾d.; soda crystals, 5*l.* 2s. 6d., ex ship; caustic, cream, 60 per cent., 14*l.* 15s. to 17*l.*; white, 18*l.*; 70 per cent. white, 25*l.*; nitrate, 12s. to 12s. 3d.; Sulphate (Glauber salt), 4*l.* 10s. to 5*l.* 10s.; salt cake, 3*l.* 10s.—Minerals: China-clay, 42s. to 45s.; phosphates of lime, ordinary, 60 per cent., 1s.; 90 per cent., 1s. 4d. to 1s. 5d. per unit; Bolivian, 61*l.* 15s.; Canadian, 80 per cent., 1s. 4d. per unit; Estremadura, 1s. 3d. to 1s. 5d.; Curaoa guano, 6*l.* 2s. 6d. U.K., and 6*l.* 5s. to 7*l.* Continent, 70 per cent.; Chrome ores, 6*l.* to 8*l.*; copper ores, 14s. 6d. to 15s. the unit; iron ores, red hematites, British, 25s. to 30s.; Spanish, none; clay ironstone, 12s. to 23s.; oolitic, 9s. to 10s.; burnt iron ores, 60 per cent., 6d. the unit; manganese ores, 70 per cent., 140s. to 150s.; pyrites, cupreous, 8½d.; non-cupreous, 10d. the unit; antimony ore, 8*l.* to 12*l.*

The settlement of the fortnightly account took place in the MINING SHARE MARKET in the early part of the week, and as Friday was a holiday on the Stock and Mining Exchanges, business has been somewhat interfered with; but the demand for tin mines has been more active than it was at the date of our last report, and several transactions have taken place at improved prices. We have no further advance in tin to report upon at present, but it is anxiously looked for. The settlement of the account just over was very heavy in comparison with previous accounts of late, and large profits must have been realised by those speculators who purchased for the rise, after the previous account of the 15th. During the fortnight Carn Brea rose 10*l.* per share; Dolcoaths, 10*l.*; Cook's Kitchens, 3*l.*; Tincrofts, 7*l.* 10s.; and East Lovells, 1*l.* Tankervilles rose from 10 to 10½, and then declined to 9, 9½; but the mine, we understand, continues to improve in the points which caused the rise, and as the fall is owing to market operations, the mine may advance again before the next account in the middle of May.

Wheal Peevor advanced from 2 to 4; the mine looks well, yet during the panic, shares were offered on the market at 6d. each, and were even sold at "two for a penny!" Wheal Grenville, during the account, rose from 3⅜ to 6; Bog, from 12s. 6d. to 19s.; West Basset, from 7½ to 10: Roman Gravels rose 1*l.*; Prince of Wales rose from 1s. to 9s., without any change at the mine; West Tankervilles have been very largely dealt in, but the fluctuations were not more than 5s. per share either way.

The mines chiefly dealt in this week have been Dolcoath, Tincroft, Carn Brea, Kitty (St. Agnes), Cook's Kitchen, East Lovell, West Basset, Peevor, Bog, Tankerville, Old Batholes, Van Consols, West Tankerville, Roman Gravels, Prince of Wales, West Tolgus, Old Treburgett, Hingston Down, West Frances, Great Vor, and others.

Bog, 19s. to 21s.; Carn Brea, 47½ to 52½; Cook's Kitchen, 9½ to 10½; Dolcoath, 41 to 43; East Caradon, 15s. to 20s.; East Pool, 9½ to 10; Great Laxey, 11½ to 12; Great Wheal Vor, 10s. to 15s.; Hingston Down, 15s. to 20s.; Marke Valley, 7s. 6d. to 12s. 6d.; Old Treburgett, 15s. to 17s. 6d.; Penstruthal, 14s. to 16s.

Prince of Wales shares have been in demand, and have advanced to 9s., 11s.; Roman Gravels, 15½ to 16; South Carn Brea, 2¼ to 2½; South Condurrow, 3½ to 3⅝; South Roman Gravels, 10s. to 12s. 6d.; Tankerville shares have been weaker, but there is no change at the mine, shares leave off 9 to 9½. Tincroft, 31 to 33; Van Consols, 4 to 4¼; West Basset, 9 to 10; West Chiverton, 3 to 3½; West Frances, 9 to 11; West Tankerville, 1⅜ to 2; Wheal Agar, 1¼ to 1⅜; Wheal Basset, 10 to 15; Wheal Crebor, 2⅜ to 2½; Wheal Grenvilles, 4⅜ to 5½; Wheal Kitty (St. Agnes), 8 to 8½; Wheal Peevor, 3½ to 4, South Frances, 10 to 12½, call paid; at the meeting, held in Cornwall, the accounts showed a loss on three months' working of 1569*l.* 4s. 6d., and a balance against the mine of 1644*l.* A call of 3*l.* per share was made. The returns for tin and copper amounted to 1233*l.* 19s. 10d. The agents conclude their report as follows:—"Fully believing that the lowest price of tin has been seen, and that the day is not far distant when this mine will increase its returns, they have the fullest confidence in the ultimate result, and that the persevering adventurers will find in the development of the mine a prize of no ordinary character." The great point in the mine seems to be the West Basset great tin lode.

West Tolgus have risen to 35, 40; at the meeting held in Cornwall the accounts showed a loss on the two months' working of 895*l.*, and a call of 1*l.* 10s. per share was made. The copper ores sold—430 tons—realised 2055*l.* It is expected from the sales already made and not credited (2743*l.*) that a small profit may be shown at the next meeting, in June. Taylor's shaft is sinking below the 125. The 125 driving west is worth 9 tons of copper ore per fathom. In the 85 west the lode is worth 10 tons of ore per fathom, worth 55*l.* The lode in the rise in the back of the 85 is worth 38*l.* per fathom. The prospects of the mine, as it will be seen from the report, are very encouraging. At the North Treskerby meeting, held in Cornwall, the accounts for eight months, to end of January,

showed a loss of 2200*l.*, and an adverse balance of 2281*l.* A call of 8s. per share was made. The agents consider the mine a valuable property, and when metals improve it will be matter for consideration how it could be best developed. East Lovell, 12 to 13; the lode in skip-shaft is worth 5 tons of tin per fathom for the length of shaft. The lode in the 100 west is worth 40*l.* per fathom. At Tregonebris new engine-shaft, below the 30, the lode is worth 23*l.* per fathom. At East Chiverton meeting a call of 2s. 6d. per share was made, and a satisfactory report read, and the agent estimated the lead in the mine for sale to be worth from 250*l.* to 300*l.*

Scottish Australian, 1½ to 1⅝; the report to be presented on May 3 recommends a dividend at the rate of 15 per cent. per annum, which will absorb 9562*l.*, and leave, after the appropriation of 2000*l.* to colliery reserve fund, 1315*l.* to be carried forward. Almada and Tirito, 12s. 6d. to 17s. 6d.; Chontales, 12s. 6d. to 15s.; Eberhardt and Aurora, 3¼ to 4; Emma, 2 to 2¼; Flagstaff, 2⅞ to 3⅛; Frontino and Bolivia, 2s. 6d. to 7s. 6d.; Last Chance, 1⅜ to 1⅝; Birdseye Creek, 3¼ to 3½; St. John del Rey, 220 to 230; Sweetland Creek, 4 to 4⅛! Richmond, 6¾ to 7; Cape Copper, 26 to 27; Don Pedro del Rey, ⅜ to ½ dis.; Alamillos, 1½ to 2; New Quebrada, 3¼ to 3¾.

The Market for Mine Shares on the Stock Exchange during the week has continued to largely participate in the general revival of business now taking place in all other leading securities, but the settlement and the closing of the Stock Exchange yesterday (Friday) tended to check new transactions. Home mines generally have been in request at full current quotations, and the impression seems to be that upon the re-opening of the market renewed activity will set in, and values advance. The exception for the moment is in tin mines, shares in which change hands at irregular prices. The closing of the tin-plate works in Wales, in consequence of the lock-out, naturally depresses the raw material by restricting demand, but it will afford makers an opportunity to reduce their heavy stocks, which had been so long accumulating—stocks equal, it is said, to six months' normal demand. Those extensively connected with the trade believe that in a short time a considerable demand must supervene, and that prices will greatly improve in favour of producers.

American Mines—at least, some of them—continue to be the sport of professional speculators, and appear comparatively neglected by the outside public. Hydraulic Mines remain in demand for investment purposes; the ample water-supply should tell upon the returns for the remainder of the season. Californian advices show that the era of Hydraulic Mining is yet in its infancy, although now extensively carried on; the immense gravel deposits along the Yuba are, practically speaking, inexhaustible. These great gold deposits, in connection with other rich mines, continually discovered, are drawing millions of capital with which to work them, and the late improvements made in this mode of mining now allow the working of mines which could not be worked before—more "dirt" can be washed away with less capital, which, it need not be said, is a point of paramount importance. In another column we publish some extracts referring to gold-washing companies which will be read with interest.

The Metal Market has been dull, although towards the close a general rally became apparent. Copper fairly enquired for. Tin quoted somewhat lower. Lead scarcely so firm. Spelter in limited demand.

Emma shares are now quoted 2 to 2¼, but few transactions take place; the contined delay in the publication of the reports and accounts—more particularly the report of the manager, who has now been in London some time—is causing much dissatisfaction, if we may judge by the numerous letters we receive from shareholders. It is urged that dispatch has become the more urgent since an apparently well-authenticated rumour is in circulation that, notwithstanding whatever may be said to the contrary, the present condition of the mine is most discouraging, and to continue operations renders additional capital absolutely necessary. Referring to the mines of Utah generally, a well-informed correspondent writes:—"Here business begins to get lively. Capitalists are coming daily from the East to invest in Utah mines. The Mono Mine struck ore last week, of the value of thousands of dollars per ton. They sold 2 tons for $14,000. The Flagstaff Mine ships 60 to 80 tons per day. The new superintendent of the Emma has arrived here, and I hope Lady Emma will gain back her good name. The Utah Silver Mine will start their concentrating works soon, I was there last Wednesday. There is no doubt but the works will be a success. Bingham Canyon will supply any amount of ore this year, as all the mines have abundance." Flagstaff, 2⅞ to 3⅛; Last Chance, 1⅜ to 1⅝; Tecoma, ¾ to 1. Utah, 1¼ to 1½; the agent reports a discovery of a good body of carbonate ore, which is being followed in depth. In another column we print an extract from an American paper apparently referring to the same discovery. From another source information of a later date than the above says that the weather has moderated sufficiently to allow the dressing machinery to start. The Winamuck Company of Utah have announced the payment of the coupons due yesterday (Friday) on their mortgage bonds.

Richmond, 6¾ to 7; cable received "Week's run $16,000, one furnace." The first run this season is one month later than that of last year, but the return is $1000 more. The second furnace was started on May 1, 1873 and it was not till June 7 that the third was lighted up. The bulk of the large profits realised during the past season was thus made between June and November. At this time last year the company was threatened with a lawsuit imperilling the most valuable portion of the mine, and was burdened with a loan of 32,000*l.* The suit was settled in June on terms which conveyed undisputed possession of an immense body of ore and the right to follow the lode—a right which has resulted in obtaining for the company a great extension of territory at a nominal cost, and which carries the further power of gaining ground in proportion as the lode is proved to advance. Since Aug. 1 the sum of 73,163*l.* has been declared in dividends, and 27,000*l.* paid off the loan account, making a total of over 100,000*l.* The lode, which at this time last year was only proved to the extent of the Look Out location, has now been traced over 300 ft. beyond it, and demonstrated to be widening and deepening as it goes down, and affording fresh evidence of permanence. The great outer vertical shaft is down about 339 feet, and the tunnel from it to intersect the incline in ore was, by last accounts, expected to reach it in a few days. A vast body of ore has been rendered accessible for extraction, and the three furnaces made ready for immediate use as soon as sufficient charcoal can be provided to run them. We learn that the second furnace will probably be started about the middle of May, and that the new flue works well. The Eureka Company, adjoining the Richmond, is reported to have come on a fine body of ore, and another neighbour, the K. K. Company, is said to have struck a fine lode. The riches of Ruby Hill, on which these three great properties are located, are thus fully bearing out the most sanguine predictions, and confirming the scientific deductions from the data on which those predictions were based. The general success of the mines in the Eureka district will have an important bearing on the progress of the railway this year. It remains to be ascertained whether the increased mineral production will supply a sufficient stimulus to raise all the funds necessary to complete the line before next winter. No exertion should be spared to accomplish this, and the efforts should begin at once. New Pacific, ⅜ to ½; the agent is accumulating a small quantity of ore at surface, and pushing on the development of the mine with vigour. Eberhardt and Aurora, 3⅜ to 3½; information has been received of final judgment in favour of the company in the Blasdel suit for $8300. The mill was stopped, but would start again on May 1.

The last West Indian mail brought continued good accounts of the Columbian Mines, and Malabar and Tolima shares have been especially in good demand. Malpaso, ⅞ to 1; the work of bringing on an increased supply has been proceeded with. Rica, ⅜ to ½; the enlargement of the reservoir is already half finished, and the superintendent states that when completed it will provide at least three times the amount of water now available, but in addition to that, by surveys lately made, there is no doubt a large permanent head of water can be obtained from an independent source. Malabar, ⅝ to ¾; the extra pipe has arrived on the mine, and the superintendent sees nothing now to prevent him commencing washing during the month of April, and he writes confidently as to the result he expects. Tolima, 3½ to 4: the returns from this mine for the month of February are the largest yet made—$5,000. The profit upon this is expected to be $15,000. It is reported that the mine is looking better than ever. Western Andes, 3½ to 4½; this mine makes a profit for the month of February of 1650*l.*, and the superintendent reported that another important lode has been struck on the property at Sausaparilla.

Blue Tent, 5 to 5½; a very satisfactory report will be found in another column. Colonel Tozer expects to have water sufficient to run up to November, and as in the courses of a week or two he will be at the face of the channel good results may be looked for. Cedar Creek, 1⅞ to 2½; it is anticipated that the clean up for April will result satisfactorily, as at date of last advices, at the beginning of the month, the agent was just getting to work, the weather being favourable. The Yankee tunnel was making rapid progress, the rock-drill was working well, and the agent looking forward to being able to start washing through it this season. Sweetland Creek, 4¼ to 4½; a telegram to hand this week announces a clean up, resulting in a profit of $10,500. This run, the agent says, has been chiefly on the side dirt, and is, therefore, very satisfactory, proving the value of this deposit. If is expected that a good portion of the next run will be on the channel through the new tunnel, as the obstructions are now nearly surmounted. Birdseye Creek, 3⅜ to 3⅝; washing is going on here as usual, and the agent anticipates a good result this run. The tunnel in the newly-purchased ground (which, it seems, has been named the Pechey Tunnel, after the chairman) is making rapid progress, having been run 60 ft. in about 17 days. Holcombe Valley, ¾ to 1; the agent writes that he has run a drift at the 60 fm. level for 100 ft., and finds good ore all the way. From this drivage he has raised 100 tons of ore, and the mill has started again, the result of the last clean up having been sent to the bank. Mining in this direct is very lively, many new claims having been started. In another column we print some interesting extracts from the San Francisco papers.

Chontales, ⅝ to ¾; at the half-yearly meeting on Thursday, reported elsewhere, the directors' report, which we published last week, was received and adopted. The Chairman referred in detail to the operations carried on during the past six months, and read a statement of accounts made up to date, by which it appeared that the company had an available cash balance of 5248*l.*, with no liabilities. The average monthly profits during the half-year have been 450*l.*, the result of working 24 stamp-heads. It is satisfactory to learn that 12 more heads are erected and ready to work with the next wet season—say, in July—and that other stamps have been ordered by the directors which are expected to be dispatched from this side in June. The supply of ore being practically unlimited, it becomes a question of turning over large quantities to make corresponding profits, and we are, therefore, glad to find the executive proceeding so energetically in this direction. The Pavon Mine, which has long claimed the attention of the shareholders, will we hope at no distant day be fully developed, when we anticipate for the company a future of great success under the able superintendence of the present manager, who has already done wonders for the company by bringing their mines from a heavy losing concern into a profitable condition, and on ore of so low a produce.

Don Pedro, ½ to ⅝ dis.; advices appear elsewhere announcing that sinking continued to go on favourably, and that the water was being kept out of the mine satisfactorily. Rossa Grande, ¼ to ⅜; the lode in Bahu, in the 50 west, continues to improve in size, and some improvements have taken place in other parts of the mine. United Mexican, 3¼ to 3⅜.

Van, 27 to 30; the bottom is opening out exceedingly well, and is looking better than ever. No alteration in any other part. Van Consols, 4¼ to 4½; lode in the 15, under adit, and winze sinking underneath, is producing 14 tons of lead per fm. The manager expresses a firm conviction a course of ore has been struck of a rich and permanent character. The next parcel of ore will be ready in a fortnight. Penstruthal, 15s. to 17s. 6d. Capt. Teague states the lode at Highburrow to be worth 30*l.* per fathom for tin, and that the stamping machinery will be put to work this week. Cathedral, 15s. to 20s.; the copper lode at the engine-shaft continues to hold good. Roman Gravels, 15½ to 16½; the details of the meeting appear in another column. Bog, ⅞ to 1⅛; the mine is opening out very satisfactorily in the bottom levels. Shares have been in request during the week, and have advanced in price. Pennerley, 1¼ to 1⅜; no change is reported from here; the mine is looking better, and apparently on the point of improving in one or two places.

Subjoined are the closing quotations:—

Bog, ⅞ to 1⅛; Carn Brea, 42½ to 47½; Cook's Kitchen, 8¾ to 9¼; Devon Great Consols, 10 to 20s.; Dolcoath, 40 to 42½; East Caradon, ⅞ to 1⅛; East Lovell, 12 to 13; East Van, 1 to 1¼; Great Laxey, 11 to 12; Great Wheal Vor, ¾ to 1; Hingston Down, ¾ to 1; Marke Valley, ⅛ to ⅜; Pennerley, 1¼ to 1½; Perkins Beach, ¼ to ¾; Penstruthal, ⅝ to ⅞; Roman Gravels, 15¼ to 16½; South Condurrow, 3 to 3½; Tincroft, 29 to 31; Tankerville, 8¾ to 9¼; Van, 27 to 30; Van Consols, 4 to 4¼; West Basset, 10 to 11; West Chiverton, 2¾ to 3¼; West Tankerville, 1½ to 1¾; Wheal Grenville, 4½ to 5; Almada and Tirito, ¾ to ⅞; Birdseye Creek, 3⅛ to 3⅝; Cape Copper, 26½ to 27; Colorado Terrible, 3½ to 4; Chontales, ⅝ to ¾; Don Pedro, ½ to ¼ dis.; Eberhardt and Aurora, 3⅜ to 3⅞; Emma, 2 to 2¼; Flagstaff, 2⅞ to 3⅛; Frontino and Bolivia, ¼ to ⅓; Last Chance, 1½ to 1⅝; Malpaso, ⅞ to 1; Malabar, ¾ to ⅞; New Pacific, ⅜ to ⅝; New Quebrada, 3½ to 3¾; Port Phillip, ½ to ⅝; Rio Tinto, par to ½ prem.; Rica, ⅜ to ⅝; Richmond Consolidated, 6¾ to 7; Sweetland Creek, 4¼ to 4½; St. John del Rey, 220 to 225; San Pedro, 1⅞ to 2⅛; Utah, 1¼ to 1½; United Mexican, 3¼ to 3¾; West Esgair Lle, 2½ to 2¾; Blue Tent, 5 to 5¼; Holcombe Valley, ⅞ to 1.

COLLIERIES.—Owing to the fortnightly settlement absorbing three days in the week, and Friday being one of the established Stock Exchange holidays, the alterations in prices have been neither numerous nor important. Attention has been chiefly directed to New Sharlstone, Cardiff and Swansea, United Bituminous, Chapel House, Vancouver Coal, Welsh Freehold, Newport Abercarn, Mwyndy Iron Ore, Native Iron Ore, West Mostyn, Ifton Rhyn, Ebbw Vale, Marbella, Merry and Co., Llay Hall, and a few others. A strike has just occurred at Bolcklow Vaughan's Witton Park Works, through, it is stated, the directors insisting on a greater reduction than 10 per cent., in order that the wages paid at the Park Works may correspond with those paid at other works. Some hundreds of men are idle in consequence, and from the fact of two furnaces being blown out and three damped it would seem that the directors did not anticipate the difference being arranged very promptly. It is quite probable that the closing of other furnaces will follow, thus considerably reducing the manufacture of pig-iron, for which just now there is an increased demand. Newport Abercarn, 3½ to 3¾; Silkstone Fall, 3½ to 4; Clee Hill, 10s. to 15s.; Llay Hall, 9 to 10; Hockley Hall, 7½ to 8½; Bessemer Steel, 3 to 2 dis.; Bilson and Crump Meadow Colliery, 1 to 1½ prem. The coupons due on May 1 for the vendors' 10 per cent. guaranteed interest in the Dunraven Adare Colliery may, it is announced, be presented for payment on and after that date at the Alliance Bank. Vancouver Coal, 7½ to 8; the annual meeting will be held on the 7th inst. at the Cannon-street Hotel. From the directors' report we gather that the output for the last six months has shown an increase of over 7000 tons of coal, but owing to high freights and the extra expense of opening new levels, &c., rendered necessary through the flooding of No. 4 level, the profits of the half-year are considerably reduced. The company, whose share capital amounts to 135,000*l.*, in 10*l.* shares (6*l.* paid up), owns three mines, in addition to large tracts of land, and the directors are enabled to declare a dividend at the rate of 10 per cent., carrying forward 1959*l.* The current expenses and directors' fees seem to be kept within the proper bonds. Littledean, 5½ to 5¾; John Bagnal, 7½ to 8½; Wedgwood Iron, 8 to 9. There seems a probability of the Somersetshire colliers returning soon to work. Mr. Rupert Kettle has shown the men conclusively that a reduction of quite 23½ per cent. must be submitted to. The masters avow that the New Mines Regulation Act has entailed altogether an extra cost of 2s. per ton. Had the Cannock Chase Colliery owners attended the masters' meeting yesterday, at Birmingham, it is highly probable that the South Staffordshire strike might have been put an end to. The next forthcoming meeting, on Monday, is looked forward to with great interest, both sides are weary of the contest, and it is hoped that the 14,000 colliers who have been playing for the last six weeks will now see that it is necessary to submit to the inevitable. The directors of the Gellydeg Colliery announce that the first quarterly payment of the quaranteed 10 per cent. dividend will be made at Messrs. Barclay, Bevan, and Co's. on an I after the 1st prox. At the meeting, on Wednesday, of the Canadian Titanic Ore Company the directors' report, which was of a very congratulatory nature, was adopted. Merry and Co., 3¼ to 3½; Monkland Iron, 4¼ to 4½; Glaisdale Quarry, 20s. to 22s. 6d. West Mostyn 12 per cent. preference shares continue in request at ¼ to ⅜ prem. Cardiff and Swansea (4*l.* paid), par to ¼ prem.; a dividend is about to be declared.

At Swansea Ticketing, on Tuesday, 1363 tons of copper ore were sold, realising 19,523*l.* 7s. 6d. The particulars of the sale were—Average standard for 9 per cent. produce, 93*l.* 18s.; average produce, 19¾; average price per ton, 14*l.* 6s. 5d.; quantity of fine copper, 269 tons 4 cwts. The following are the particulars of the two last sales:—

Date.	Tons.	Standard.	Produce.	Per ton.	Per unit.	Ore copper.
April 14..	1274	£ 93 5 6	18⅞	£13 9 0	14s3d	£71 5 0
,, 28..	1363	93 18 0	19¾	14 6 5	14 6	72 10 0

Compared with the last sale, the advance has been in the standard 12s. 6d., and in the price per ton of ore about 2s. 3d. There will be no sale on May 19.

The TREWAVAS TIN, COPPER, AND SILVER-LEAD MINE, to the formation of a Cost-book company for working which reference was made in last week's Journal, has been well received by the public; the applications are stated to have been very numerous, and in excess of the number of shares at disposal. The list of applications for shares will be closed on Wednesday next.

The NORTH DELABOLE SLATE QUARRY COMPANY (the prospectus of which appears in another column) has been formed, with a capital of 30,000*l.*, in 15,000 shares (of which 10,000 are offered to the public), to purchase the lease of this well-known Cornish slate quarry, which produces a slate of the best quality, in great demand, and commands a ready sale. It is situated about a mile from the celebrated Old Delabole Quarries. It has an area of 65 acres, and is held on lease for 21 years (17 of which are unexpired), renewable for a like term upon expiration, at a rental of 250*l.* per annum, or a quantity of slate raised not to exceed 5000 tons, and for any quantity beyond that a royalty of 9d. per ton is to be paid; a further sum of 25*l.* per annum is paid to the Duchy of Cornwall for the use of the water through the works. The quarry has been in work under private management for about 50 years; the operations have been far from adequate to the resources of the quarry, yet from quiet and small workings a clear profit of 40 per cent. per annum has been constantly realised. The company will be in a position to commence operations as soon as an allotment of shares is made, there being on the property all necessary machinery and plant for the purpose. The services of one of the late proprietors, whose practical knowledge of the quarry and experience in its workings, with the interest he holds in the company, will secure a supervision not generally attainable, and insure for the advantage of the shareholders proper oversight of every department on the spot. The vendor, to show his confidence in the concern, has agreed to take two-thirds of his purchase-money in fully-paid shares of the company, and to extend the cash payments over a period such as will give the company every chance of success. All buildings, plant, stock-in-trade, and all rights of water are included in the purchase.

The NORTH VAN MINES (the prospectus of which appears in another column) is the title of a company formed to work the North Van and West Nanty Lead Mines. Both are in the same geological formation and district as the Van. Referring to West Nanty, Capt. Paull (of Goginan) says—"The lode worked upon is a continuation westward of the richest known lead lode in the district—that of the Van Mine—and the strata are precisely the same." And, after describing the work already done, he writes—"I consider the property to be one of very great promise, and, judging from the character of the large lode seen here, I am of the opinion that it will when further developed, and within a comparatively short period, turn out large quantities of ore, and become a very profitable mine." Capt. Walter Eddy writes, under date April 14, 1874—"There can be no question, in my opinion, that the lode here is a continuation of the one that is proving so rich at the Van Mine. They have both the same run or bearing, the same underlie, are about the same width—from 25 to 30 ft.—and are in the same class of rock. The mine will, in my judgment, be in a position in a few months to make monthly sales of ore, and as there will then be a large extent of backs to stope away, should be making a good profit on such returns. In North Van, the main lode, the direction of which is the same as that of all the rich lodes in the district, is large and well-defined, being from 8 to 9 ft. wide, embedded in argillaceous or clay-slate, with lime-spar thinly scattered throughout; the ores, both of lead and zinc, show a continued improvement with the increase in depth. Capt. Kitto states that, notwithstanding he has had several years of practical experience in the lead mines of this district, he had seldom seen a young mine presenting better prospects, and has no doubt that a spirited and judicious development will be attended with great success. It is stated that as a large quantity of good ore is already in sight in the West Nanty Mine it will soon realise dividends. And in the meanwhile the North Van, the working of which will be unusually easy and cheap, may be advanced under the same management to a similar stage of development. The capital is fixed at 60,000*l.*, divided into 12,000 shares. The vendors accept 20,000*l.* in cash and 0,000*l.* in fully paid up shares for the leases and plant of these two mines.

Notices to Correspondents.

*** Much inconvenience having arisen in consequence of several of the Numbers during the past year being out of print, we recommend that the Journal should be *filed* on receipt; it then forms an accumulating useful work of reference.

SIR,—Can any reader inform me if there is any practical mechanical appliance for Separating Iron Pyrites from Lead Ore, otherwise than by smelting? If so, I shall be glad of such information.—SECRETARY.

LIMITED LIABILITY.—Would any legal reader kindly inform me if a holder of fully paid-up shares in a mining company (limited) can be held to any further liability in the event of such company being wound-up by the Stannaries Court?—INFORMATION.

STEELYARD INDICATORS.—Your Glasgow correspondent last week states that a paper was read by Mr. Mackenzie at the Fairfield Association on Steelyard Indicators. I should feel obliged if some reader would inform me who are the manufacturers of the indicators referred to.—M. Y.

SHARE DEALING.—We never interfere in the sale or purchase of shares; neither do we recommend any particular mine for investment or speculation, or broker through whom business should be transacted. The addresses of most of the latter appear in our advertising columns.

Received,—"Juan" (Cape Copper)—"St. Teath" should forward a copy of his letter to Mr. Ennor—"Owen's Valley"—"P. E. R."—"J. P."—"W. H."—"Reader"—"Shareholder" (Eclipse)—"C. H."—"Candidus"—"Pick."

SCALE FOR ADVERTISEMENTS.—Our charge for general advertisements is—for six lines and under, 4s.; per line afterwards, 8d. Average, 12 words per line.

AMERICAN SUBSCRIBERS.—In reply to several enquiries, it may be stated that subscribers in the United States can be supplied with the *Mining Journal*, post free, at the price of $8 50c. gold per annum, payable in advance, by remitting to Mr. D. Van Nostrand, publisher, and importer of scientific books, &c., Murray-street, New York; or, direct to our Office, 26, Fleet street, E.C.

THE MINING JOURNAL,
Railway and Commercial Gazette.

LONDON, MAY 2, 1874.

COLLIERY ACCIDENT FUNDS.

We are glad to find that the attention of the Home Secretary, as well as the public, is now being directed to the large sums of money remaining in the hands of private individuals from subscriptions raised in all parts of the kingdom for the relief and support of the sufferers from colliery accidents. The dispensers of such public funds, as we rule, are those who have subscribed the least towards them, and in several instances they have shown a very decided aversion to parting with any surplusage that may remain in their hands after all the claims for which the subscriptions were first invited have been disposed of. The consequence has been that many thousands of pounds subscribed for the purpose of maintaining the widows and children of those killed by colliery accidents have been lying dormant, untouched and almost unknown, whilst similar catastrophies have taken place, in which, owing to there being no special fund provided, the poor unfortunates who have lost their husbands and fathers have been compelled to seek a refuge in the workhouse. In several such cases we have known applications to have been made to those who were the custodians of large sums of money that were not required, but without effect.

A striking instance of this truly selfish policy has just been brought under our notice, with regard to which we have been put in possession of considerable correspondence relating to it, and in which we have a most apposite illustration of the difference between the peer and the *parvenue*. The facts are of the most simple character. In the early part of October, 1872, an explosion took place at the Morley Colliery, near Leeds, by which 34 persons were killed, leaving 15 widows, 60 children, and 6 aged parents totally unprovided for. A subscription was raised on their behalf, and although the owners of the colliery subscribed most liberally, yet the fund was exhausted at the close of last year. A second appeal was out of the question, seeing that the public was made acquainted with the fact that there were considerable balances of public subscriptions that ought not to be held over indefinitely, at the option of two or three persons. Applications were then made in several quarters where it was known large sums unrequired were in hand from former funds raised for the benefit of those who lost their bread-winners by colliery accidents. Amongst others, the Oaks Colliery Explosion Committee, at Barnsley, were applied to. Now, the public subscriptions to that fund, over which the Committee has control, amounted to the extraordinary high figure of 48,747*l.* 4s. 3*d.*, of which no less than 11,697*l.* was from the Mansion House subscriptions. Of the total amount there was, on December 31, 1872, a balance in hand amounting to 34,067*l.* 13s. 11*d.* Of course, the claimants on the fund are fast decreasing, the number having declined from 690 at the time of the explosion to 357 at the close of 1872, whilst by the end of 1879 all the children will be off the fund. Such being the position of the Oaks Fund, it has been calculated by competent persons that after every claim against it has been paid there will be a surplus of between 15,000*l.* and 20,000*l.* Under such circumstances, it was not unnaturally thought that the Barnsley committee would not hesitate to assist the unfortunate sufferers at Morley. But no, the application was refused on the ground, principally, that the money was subscribed for the support of the sufferers by an accident in South Yorkshire, and that any surplus was to go towards the formation of a permanent accident fund. To our thinking, anything more uncharitable, more intensely selfish, all things considered, we scarcely ever recollect coming under our notice in relation to a public subscription, and we feel assured it will meet with the reprobation of the great majority of the subscribers. This condemnation will apply with greater force when we state that West Yorkshire subscribed most liberally to the Oaks Fund. Leeds sent more than 2000*l.*; Halifax, 1000*l.*; Pontefract, 1000*l.*; Dewsbury, 350*l.*; Huddersfield, 500*l.*; York, 1100*l.*; Bradford, 600*l.*; besides other amounts from small towns, independent of the individual sums sent direct to the general fund by the nobility and gentry. Yet this great liberality, shown in the hour of trial, was requited by the managers of the Oaks Fund by a peremptory refusal to aid the sufferers by the Morley explosion with any portion of the very large surplus which the generosity of West Yorkshire helped to create. But perhaps this is scarcely to be wondered at when we come to look at some of the rules regulating the payments to the unfortunate recipients—or rather those who were in that position, for many have been deprived of the pittance granted to them in the first instance by one of the rules, by which it is laid down that parents who were partially supported by their sons lost in the explosion should cease to have any claim on the fund, when the sons lost, had they lived, would have attained the age of 21 years. That is to say, when the sons, had they lived, would have been legally liable to support their aged parents, the 3s. or 4s. a week given from the fund would terminate—or increased age and infirmity was a disqualification for pay being continued. Who the very humane gentleman was that framed that rule we are unable to say, but we will venture the opinion that he was not amongst the largest subscribers. For the present, at least, we must leave the Oaks acting committee, although on a future occasion we shall, probably, have something to say about that liberal minded body, and to what extent their donations swelled the fund over which they preside with so much tenderness, and proceed to the next step taken on behalf of the sufferers at Morley.

Being informed that there was a large surplus, some 15,000*l.* or 16,000*l.*, remaining of the Mansion House Fund, raised for the relief of the widows, orphans, &c., of those killed by the Oaks and Talk-o'-the-Hill explosions, Mr. HILL, who acted as secretary at Morley, wrote to Mr. Alderman PHILLIPS, who was Lord Mayor in 1866, and as such was understood to be the treasurer. He stated that "Our fund is now finished, and we have 16 widows, 60 children, and 7 aged people, who are in great distress, and hearing that you have to do with a surplus of other funds, I hope you will be able to help us." To that very modest appeal Alderman PHILLIPS did not vouchsafe any reply whatever, although, considering the object, an immediate response might reasonably have been expected. Such, however, was the courtesy of a great city dignitary in answer to an application on behalf of some 83 poor helpless people, on whose behalf a portion of the money, not belonging to Alderman PHILLIPS, but to the public, was asked for. But we are very much mistaken if the Alderman will be allowed to retain the money connected with the subscription of 1866-67 entrusted to him for a specific purpose, for the subscribers have a right to know what has become of it, and the amount of the surplus. Very different, however, was the manner in which Lord WHARNCLIFFE received an application as to another fund—but *noblesse oblige*. With regard to the latter we have another little history to relate of a fund that nothing has been heard of from the time of its establishment, upwards of seven years ago, until very recently.

In 1862 there was a terrible explosion at the Hartley Colliery, by which a great many persons were killed. An appeal was made to the public, subscriptions flowed in most liberally, so much so that the committee appointed to disburse the money found after the first five years working that there would be a very large surplus after meeting all claims; but, unlike the managers of the Oaks Fund, they determined to divide what was not required amongst other mining districts, instead of selfishly keeping it in their own hands. Accordingly the sum of 2284*l.* 17s. 4*d.* was allocated to the West Riding. In January, 1869, a meeting was held in Barnsley with regard to the sum named, when it was agreed that it should form the nucleus of a permanent fund to provide for those who might suffer owing to colliery accidents. The money was to be invested in the names of Earl FITZWILLIAM, Lord WHARNCLIFFE, and Lord HALIFAX, Mr. PEACOCK, solicitor, accepting the office of honorary secretary, whilst a committee was appointed to draw up the rules for the carrying out of the scheme. The money, we understand, was duly placed in the Wakefield and Barnsley Bank, and from that time nothing more has been heard of it, or anything done. Even Lord WHARNCLIFFE appears to have been unable to say whether he was a trustee of the fund or not, it being evident that he has now no intention to that effect. We have, however, every reason to believe that his lordship will see that the fund will not be left idle when there are cases such as that of Morley requiring immediate aid. This is evident from the very kind and considerate letter he sent on being applied to on the subject, but which also shows how some funds are often left without being thought of or cared for. His Lordship writing on March 21, says—

"SIR,—I was not aware that I was and am a trustee for the surplus fund of the Hartley Colliery fund, nor do I know where the fund is placed, or to whom to write on the subject. If you can find out for me among your acquaintances who is the person acting as secretary for the trustees or fund, or able in any way to deal with the money, I would gladly try to assist you, but I am totally in the dark as to the whole matter."

We have yet another instance to note as showing how some colliery relief funds are managed, for it is stated in a contemporary that the sum of 500*l.* is at present lying in the hands of a private gentleman in Barnsley, being the surplus left from the funds raised for the sufferers by the first explosion at the Oaks, which took place in 1847. In West Yorkshire, also, there appears to be a balance unaccounted for in connection with a subscription which dates so far back as 1825, when there was an explosion at the Day Hole Pit, Middleton, near Leeds.

So far as the surplus of the Hartley Fund sent into the West Riding is concerned, we do not for a moment doubt now that Lord WHARNCLIFFE has been informed of its existence, but what a portion of it will soon be made available for the relief of the poor people at Morley. At the same time we think the public will agree with us that the surplus moneys subscribed for a charitable purpose ought not to be left in the hands of one or two persons to deal with as they please, for such never could have been the intention of the subscribers. We have not much faith in the ultimate disposal of the large surplus of the present Oaks fund, for we cannot forget that whilst the few managers of it quite recently purchased a cart-load of handsomely bound Bibles to present to the children and others who were connected with the Oaks, whilst they at the same time refused to give anything towards purchasing bread for the widows and orphans of the men killed by the Morley explosion—to us a singular blending of the religious with the uncharitable.

Before concluding, we must express the hope that Mr. MACDONALD, M.P., will persevere to obtain an account of all outstanding balances of colliery relief funds, so that they shall not be allowed to remain in the hands of a few persons for an indefinite period. The honourable member for Stafford may also calculate upon our doing all we can to aid him in carrying out such a really good and much required work as he has taken in hand.

IRON IN GREAT BRITAIN AND IN THE UNITED STATES.

The iron trade of Great Britain has been very materially extended during the past few years, and it may also be said that so has American metallurgical industry increased in importance. In the 20 years ending with 1873 inclusive the production of pig-iron moved on as follows in the United Kingdom and in the United States:—

Year.	Unit. King.	Unit. States.	Year.	Unit. King.	Unit. States.
1854 .....Tons	3,069,838 ...	736,248	1864 .....Tons	4,767,901 ...	1,135,497
1855	3,218,151 ...	784,178	1865	4,819,234 ...	931,582
1856	3,586,377 ...	883,137	1866	4,523,897 ...	1,350,343
1857	3,659,477 ...	798,157	1867	4,761,023 ...	1,461,626
1858	3,456,064 ...	705,094	1868	4,970,206 ...	1,603,000
1859	3,712,904 ...	840,627	1869	5,553,757 ...	1,916,641
1860	3,826,752 ...	907,559	1870	5,963,515 ...	1,865,900
1861	3,712,390 ...	731,544	1871	6,627,179 ...	1,912,608
1862	3,943,469 ...	787,662	1872	6,740,929 ...	2,830,072
1863	4,510,040 ...	947,904	1873	6,800,000 ...	2,695,438

The American total for 1873 is as perfect and complete as possible, but the English one is, to some extent, an approximate one. The great onward stride made in the production of pig-iron in the United States in 1872 was scarcely maintained, the panic of last autumn having, no doubt, exerted a very depressing influence. It will be seen, however, that, notwithstanding the exertions made by the Americans to develope metallurgical industry, the British production of pig-iron, comparing 1873 with 1854, has increased at a more rapid rate than the American, the progress achieved on this side of the Atlantic in the last 20 years having been 3,700,000 tons, while the corresponding advance in the United States did not much exceed 1,900,000 tons.

It appears from the annexed rather curious sentence that it is an object of ambition with some Americans that the United States should achieve as large a production of pig-iron annually as that effected in Great Britain:—

"We are only 19 years behind Great Britain in the production of pig metal, and if we only keep up our protective policy, and base the issue of currency on wealth, in the proportion of $1 in currency to $35 of the real and personal property of the country, and then distribute the National Bank issue among the States in the proportion of one-half on wealth and one half on population, then let it expand as business and wealth expands, with a national rate of interest at 6 per cent., and the issue of $3·65 convertible bonds to make the currency flexible, to which may be added free banking on the limit prescribed in the issue, we firmly believe we will catch up England in the production of pig metal within a period of 12 years, while the wealth of the country would be increased from 50 to 75 per cent. in that period."

We gather from this slip shod jumble that the continued issue of currency is the philosopher's stone which is to convert everything American into gold, albeit that the more far-seeing Americans, with President GRANT at their head, recognise in currency the fertile source of many American troubles. The sentence which we have quoted (and which is, of course, by an American hand) appears to us as unsound in its reasoning as it is defective in its grammatical construction. It is not by some hocus pocus of currency and free banking, and "$3·65 convertible bonds to make the currency flexible," that great and prosperous industrial communities are built up. The real magicians which extend the production of pig-iron, and foster and develope every other industry are credit, perseverance, and probity. The United States appear to us to groan under the yoke of quite a host of financial empirics, and the marvel is that the Americans have made the progress in metallurgical industry which they appear to have achieved. That they have advanced is an undoubted fact, and their advance affords another illustration of the accuracy of Lord DERBY's grim joke—that it is difficult for any body of men, however mischievous and evil disposed they may be, to altogether ruin a great nation.

The production of iron, properly so called in the United States, has certainly made considerable progress in the last 10 years, but we regard it as an advance achieved in spite of currency, free banking, and what not. Thus the total manufacture of rails and other rolled iron in the United States has moved on, as follows, during the decade ending with 1873 inclusive:—

Year.	Rails.	Other rolled iron.	Total.
1864 .....Tons	335,369	.....Tons 536,948	.....Tons 872,327
1865	356,292	 500,048	 856,340
1866	432,778	 595,311	 1,028,089
1867	462,108	 579,838	 1,041,946
1868	506,714	 598,286	 1,105,000
1869	593,586	 642,428	 1,236,114
1870	620,000	 705,000	 1,325,000
1871	775,733	 710,000	 1,485,733
1872	941,992	 1,000,000	 1,941,992
1873	850,000	 980,000	 1,830,000

The total for 1873 is an approximate estimate, but there is no doubt that the production of finished iron has very largely increased during the last 10 years among our Transatlantic cousins.

CAPE COPPER MINING COMPANY.

The shareholders may be congratulated that the colonial officers' reports for 1873 are decidedly favourable. Notwithstanding the difficulties from increased water, as the works extended, the result of the year's operations at Ookiep has proved very satisfactory, and the report of the Chief Mining Agent upon the present position and future prospects of the mine is very encouraging. The new discoveries have fully compensated for the ore removed, and the reserve is increased as well. The Spectakel Mine has not proved so productive as in 1872, but trial works are still being pushed on at the mine. Owing to the scarcity of water at Spectakel, it has been difficult to carry on dressing operations satisfactorily. During the past year explorations have been carried on at Karolus Berg, Narrap, Springbok, Kil-Duncan, and Garracoup, and although neither of these places has as yet answered the expectations formed of them, the last-named is the only one that does not warrant the prosecution of further trials. Karolus Berg is reported to be a mine of great promise, and efforts will be made to push the prosecution of the trial vigorously. Ookiep gave 6955 tons of 32⅝ per cent. ore in 1873, against 6900 tons of 33¼ per cent. ore in 1872; and Spectakel gave 788 tons of 33⅜ per cent. ore in 1873, against 1198 tons of 34 per cent. ore in 1872. The difficulty of securing constant attendance of sufficient labour has been a good deal felt. The smelting operations were favourably affected by the increased facility with which coke could be obtained from the Coast during 1873. At Ookiep 5182 tons of ore, giving 482 tons of regulus and 53 tons of metal, were smelted in 1873, against 3878 tons if ore, giving 402 tons of regulus and 18½ tons of metal in 1872. Owing to the great scarcity of water, and the difficulty of obtaining labourers at Spectakel, smelting was suspended there in February, 1873; there were 533 tons of ore smelted, averaging 7½ per cent., and the produce was regulus 26 tons, averaging 50 per cent.; metal 30 tons, averaging 73 per cent.

During the twelve months under review the railway worked satisfactorily, and proved of great service in removing the accumulated heaps of copper ore. The goods, fuel, and forage brought up by rail amounted to 3402 tons in 1873, against 1794 tons in 1872; and the copper ore sent down by rail was 10,424 tons in 1873, against 7811 tons in 1872. The amount of traffic required by the general public has contributed very little to the profitable working of the line. In addition to the transport shown above, the carriage of material and forage for the mule trains, and material for construction, only about 900 tons were provided for conveyance from the Coast, and 128 tons for the down trucks. The increased pressure that we have put upon the transport departments rendered it necessary to secure additional wagons as well as more draught stock; 280 mules have been purchased during the year, and 31 horses were also obtained. The total number of animals in the company's stables at present is 660 mules and 37 horses. The consumption of forage has necessarily increased in proportion to the number of additional animals acquired, and during the year ended Dec. 31, the consumption was 5837 bushels of oats, rye, and barley monthly; of oat sheaves and chaff a quantity equal to 19,300 lbs. was issued monthly.

Twenty seven voyages were made by the different ships carrying copper ore for the company, and these vessels loaded during the time they were so employed 11,038 tons of ore, regulus, and metal; of this quantity 9658 tons were shipped at Port Nolloth, and 1183 were put on board at Hondeklip Bay. The improvements made by the erection of a first-rate steam crane, weigh-bridge, &c., were manifested by the manner in which the work of the port was accomplished. The further improvements that will be effected when the steam launch (now nearly ready for sea) is afloat will enable the shipping department to discharge vessels and put cargoes on board with great dispatch. The work of removing the rocks that obstruct the passage at Port Nolloth, which is about being commenced, will prove very beneficial to all vessels calling there, and comparatively large ships will, when the task is accomplished, be enabled to proceed direct to the upper anchorage, where they will be sheltered under the lee of the island, which forms a natural breakwater.

Great difficulties have been encountered by the engineering department at Ookiep during the past year. The influx of water rendered it impossible to allow the engines the time required to keep the machinery in good order, and at length it was found necessary to erect a machine to pump the water from the mine by animal power. This expedient checked the rise of the water while the engine was undergoing repair. A great deal has been done to enable this department to keep pace with the extention of the mine. A good substantial engine-house has been built, and a very excellent 30-in. beam engine has been imported, brought up country, is now placed in position, and will soon be in full operation. This must be regarded as a most important fact, for there will be a great saving in coal when the new engine is at work. Many minor improvements have been effected, amongst which may be mentioned the erection of a small engine to work the Coliom's and other jigging machines, and the erection of a good punching and shearing machine, which has been found very useful. A Nasmyth's hammer and cupola furnace, also on the place, will, when ready for use, be of great service. At Spectakel the machinery was found to be quite equal to the duty required, and no change or alteration has been necessary.

The medical officer still complains of the intemperance amongst the miners, and suggests that good beer should be shipped to endeavour to stop the too free use of the Cape brandy. As regards scurvy, which has always given a great deal of trouble, the limejuice and preserved vegetables so freely imported by the company and issued as rations upon the order of the medical officer, have had a beneficial effect. Much has been done at Ookiep to promote the growth of vegetables and fruit, and the result is that these very necessary articles are now to be purchased on the place, and very shortly, when the competitive gardens that have been started are a little advanced, they will probably be sold at Cape Town prices. The rent received by the company was in excess of the sum collected in 1872. The sale of land has been limited to the disposal of a plot of building ground at Springbok. From the colonial accounts it appears that there is an increase in the total value of the stock in the country; this excess over 1872 results from the additional mules that have been purchased and from the cost of the valuable machinery imported. The valuation of the different articles in the stock sheets is extremely moderate. On the whole, considerable improvement has been experienced in the conduct of the miners and labourers during the year, and although drunkenness does at times cause great annoyance, the vice is not keeping pace with the growth of the place.

LEAD AND SPELTER AS SHIPBUILDING MATERIALS.—An improved method of adapting and employing lead and iron in the construction and ballasting of ships or vessels has been invented by Messrs. Harvey and Pryer, of Wivenhoe, Essex. The framing of the ship or vessel, instead of being made, as heretofore, of either wood or iron, will, according to this invention, be made to consist of lead (or spelter) or other suitable metal, in combination with angle or other iron of suitable shape, which will be inserted, let in, or contained within the lead, spelter, or other metal, through the same being run or fixed on the outside of such angle iron, or otherwise attached and secured to the timber or iron forming the other portion or portions of the framing or construction of the framing of the ship or vessel, and the employment of the lead or spelter will at the same time have the effect of acting as ballast in the ship or vessel.

ARBITRATION IN THE COAL TRADE.—Mr. Rupert Kettle, who has been sitting in arbitration between the masters and men of the Somersetshire coal fields, made his award on Wednesday morning. The men struck against a proposed reduction of 10 per cent., and the question was afterwards referred to arbitration; but, pending the enquiry, the masters gave notice of a further reduction of 15 per cent., and arbitration was resolved upon in reference to both notices. Mr. Kettle, after hearing evidence and examing accounts, which had been prepared by professional accountants, decided upon a total reduction of 23¼ per cent. Mr. Norris, of the Western Circuit, represented the employers; and Mr. J. Clifton, of Bristol, argued the case on behalf of the men. Throughout the day great anxiety was displayed in every district in the Somerset coal field to gain information as to the result of the arbitration. A large number of colliers assembled in the market-place at Radstock. Speculation was rife. The telegram giving the intelligence that the men would have to submit to a reduction of 23¼ per cent., but would receive 4 of the 10 per cent. which had been paid into the bank, was not credited when it arrived, and further enquiries were made through the wires. When the correctness of the information had been ascertained beyond doubt great excitement prevailed, and will no doubt continue for some day; but as the arbitration was the proposal of, and was carried out under, the cognizance of the Union, no difficulty was anticipated in the pits affected by the decision, although a rather serious dispute is said to exist in the southern extremity of the field. The

result of the arbitration shows that the masters substantially made out the case they previously set before the men that the cost of the new Mines Act was 2s. 6d. per ton.

REPORT FROM CORNWALL.

April 30.—Judging from the difference between the quoted prices of the Straits tin and that at which the standards for our Cornish produce, even after the rise, have been standing, somebody appears to have been paving the way for handsome profits. Of course allowance must be made for the disorganised state of the metal market, which had been marvellously tricky of late, but when all such allowance has been set off it seems evident enough to us in Cornwall that in equity the first rise of 5*l.* ought to have been one of 10*l.* However, as prices really ruled some 2*l.* above the official quotations, and as Australia has to be borne in mind, this is not, perhaps, so much to be regretted, only a second official rise might with advantage to the mining interest have followed more speedily. Wanting this fresh impetus to sustain its upward progress, the market, owing to an anxiety on the part of many persons to realise some of the profits they had made on their low-rate purchases, declined somewhat for a while. But the conviction of better things still in store was soon sufficient to turn the scale again the other way.

The large exportations of tin to America continue. One smelting firm alone have sent off 320 tons in one parcel. It is said that the chief reason of this extraordinary demand is such as to show that it is not so extraordinary after all. Our friends across the Atlantic are getting tired of having to be dependent upon the old country for their supply of tin-plates, disorganised as the tin-plate manufacture here is by incessant strikes and combinations, and that they are about to manufacture for themselves on a large scale. If this be so, then this demand for tin from America is no mere flash in the pan, but an evidence of an increasing want, which will largely tend to neutralise the late excess of supply, and indeed place matters upon an equal footing again. Anything more encouraging, especially at this juncture, it is difficult to conceive, and the present outlook must alter very materially if a new era of prosperity is set before us.

And now is the time once more to press upon mine managers and adventurers the capability and need of improvement there is in mining. The next costly element is that of pumping. Coals are back to what may be termed by comparison a reasonable price, and they will yet go lower; but there is not anything like the care taken that there ought to be to test the coal before it is purchased, and the number of mines that import their own is very small compared with what it ought to be. As "all that glitters is not gold," so it is needful to impress the fact that all that is black is not coal. And, given good coal, it is a well ascertained fact that with more efficient organisation, good stoking, and efficient boiler power, the "duty" of our engines could be enormously increased, and an economy effected which, if not so great as that caused by the substitution of Trevithick's for the old hearse or wagon boiler, is yet a matter of great importance, and to be reckoned by thousands annually. We believe, too, that sooner or later boring-machines must cheapen the cost of exploration, and that improvements in dressing must increase the comparative returns. Indeed, there are so many ways in which economy may be effected that, despite all the drawbacks which may be alleged, and of which from time to time we hear a good deal more than is justified by the needs of the case, there is in this possibility of improvement a reserve of strength which will make mining hold its own in Cornwall and Devon, even under more adverse conditions than those from which we are emerging. Only when occasions of improvement arise there must be a little more readiness to take advantage of them; that is where we are more deficient than in any other particular.

The five-weeks month has had another blow; the men at Wheal Uny having refused to take more bargains under it, and have unanimously declared in favour of the four-weeks system. Seeing what has happened elsewhere, and the evident disposition of the men to consent to lower terms rather than have the calendar month pay, it may be asked whether it is wise to keep up the struggle any longer, and whether the wisest plan is not to accept the inevitable, and so arrange the accounts that whether the men are paid by the lunar or the calendar month each period between meetings shall bear its own burden. There is no question that it can be done.

The Cornwall Minerals Railway, it is said, is to be opened on the second week in May. Already an engine and train have passed over the whole line from Fowey to New Quay, and the Government inspection is now being made. The opening, in the first place, will be for goods purposes only.

Stealing tin would seem to be getting a common offence. The other day at Camborne a woman was committed for stealing tin at Dolcoath, and now we learn that the tin-house of St. Ives Consols has actually been broken into. Two bags of the stolen tin have been found on Hellesvue Downs. How does this tin get into the market?

Mr. W. C. Borlase, F.S.A., has published in a pamphlet of 72 pages a valuable and most interesting sketch of the history of the tin trade in Cornwall from the earliest period to the present day. It is well written, and contains much hitherto unpublished matter from the valuable MSS. of Dr. Borlase. The sketch was first delivered as a lecture to the members of the St. Just Mechanics' Institute.

At one of the recent monthly settings of the Levant Mine, St. Just, two young men took a bargain on tribute for two months, at the 210 fm. level, where there was an old abandoned work, formerly worked on tribute. After toiling and exploring a few days, they fell in with a good bunch of tin; and their tribute being 17s. in 1*l.*, an excellent start was made, and the first month's pay realised to these two tributers a net sum of about 45*l.* between them; whilst this month will bring them for their net getting about 35*l.*—say, in round numbers, about 80*l.*, the amount of their earnings in eight weeks, or about 40*l.* each. In other words, 20*l.* per man each four-weeks month. The net wages earned by the underground miners in Levant this month is said to be nearly 4*l.* 10s. each for four weeks, which may be considered as excellent pay.

REPORT FROM SCOTLAND.

April 29.—Since the date of our last report the warrant market has shown a firmer tone. On Friday last as high as 78s. 6d. was paid, and the closing price that day was 77s. 6d. This week a good business has been done from 76s. 9d. to 79s., which was paid yesterday, and at this price buyers remained, sellers asking 79s. 3d. To-day the warrant market opened firm, with business from 79s. 4½d. to 79s. 9d., but the tone afterwards became very flat, and as low as 75s. 9d. cash was accepted, sellers remaining at that price. We cannot this week give our usual quotations for the various brands. No. 1, g.m.b., may be quoted 80s. to 81s., and No. 3 78s. to 79s.; but for special brands it is difficult to ascertain the value without coming to actual business. The dispute betwixt the mining population and their employers continues, and, in consequence, a large number of the furnaces still remain idle.

SHIPMENTS.

Week ending April 26, 1873	Tons	12,996
Week ending April 25, 1874		8,771
Decrease		4,225
Total decrease since Dec. 25, 1873		68,507
Imports of Middlesborough pig-iron into Grangemouth:—		
Week ending April 25, 1874	Tons	1,590
Week ending April 26, 1873		530
Increase		860
Total increase for 1874		20,112

The miners, finding themselves as successfully entangled by the machinations of their representatives as "the wild bull in the net," are fuming against their leaders of every degree; and, in order that they might have an opportunity of knowing each other's thoughts on "the situation" more directly, they convened a mass meeting at Powburn Toll, yesterday, which was conducted in a characteristic style. Throughout the proceedings were of the most acrimonious and disorderly character, ending in upsetting the impromptu platform, and precipitating the Chairman and Vice-Chairman on the ground. Several of the delegates sought to defend themselves from the attacks of the speakers, made in the presence of something like 14,000 auditors; but, while one or two were listened to, some were denied the privilege of defending themselves. The business concluded by three resolutions being submitted to the meeting. The first, "To offer to resume work at a reduction of 30 per cent.," was lost, and the remaining two were left undecided; these were:—

1. "That all reductions above 20 per cent. be resisted."—And, 2. "That labour should be entirely suspended until the furnaces are re lighted." The Chairman declared that the former was carried by a majority. This ruling being questioned, a show of hands was again taken, and the Deputy-Chairman said that the vote was in favour of the latter motion—that labour should be entirely suspended until the furnaces were re lighted. The Chairman appealed to the reporters to note that he had declared the first motion carried, while the Deputy-Chairman and Mr. Smith, of Motherwell, and others, declared that the second motion was the resolution of the meeting. It was subsequently intimated from the platform that another meeting would be held at Powburn, on Thursday.

From the above resolutions it will be seen that Mr. Macdonald's "brainless" are still in power, and are likely to carry the vote for a few weeks longer.

In the meantime, the brands of a number of makers are off the market—it is even said that they are not in existence—the stocks in Connal's and makers' stores are very much reduced, and there are not more than 45 furnaces in blast in the whole of Scotland. This looks as if the necessities of the makers and the miners were becoming rapidly equalised—the necessity of the ironmasters to relight their furnaces, and of the men to resume working for their bread; but there is this difference, that iron will not for some time to come bear as high a value as it did during the past year, in the face of the competition of the world, and so the miners will either have to submit themselves to the range of prices capable of sustaining this competition, or betake themselves to other pursuits.

It is difficult to say what proportion of the miners are working, and what are out on a strike of resistance to the dictates of common sense. So far as we can learn the number is pretty evenly balanced, but the tendency is to add to the working number.

There is no reportable improvement in the Bar-Iron Trade, works being off and on every two or three days, and prices do not defray prime cost in too many instances. Quotations are nominal, and good orders could be placed to the advantage of buyers. Foundry Iron is not much better, and boilermakers could undertake more work. Brassfounders are fairly employed, and copper-workers have still good specifications on hand.

Coals are firmer this week, with the prospect of an early consumption of the coal by the ironmasters which is presently being laid on the sale coal market. The coalmasters are very unwilling to reduce prices, and would much rather pay the collier his "big" wage than sell at the reduction the ironmasters wish to force upon them. Prices are, perhaps, 6d. a ton better, but the shipments keep under those of last year, the amount being 34,566 tons, against 39,864 tons in the corresponding week last year. But coalmasters will have to give way, or they may find the diminished output quite equal to the diminished demand, with something over.

The strike amongst the workmen does not seem to be getting much nearer an end, although many of those who cried out most loudly against going in are in themselves, and inducing others to follow. At some pits the men are locked out, and at others the men are soliciting to get beginning work, but some others seem disposed to stand out till the old wages are secured, and will give no heed to the counsels of wisdom.

REPORT FROM LANCASHIRE AND CHESHIRE.

April 30.—The Coroner's enquiry as to the Dukinfield Colliery explosion was resumed yesterday at the Astley Arms Inn, Dukinfield. Mr. Horatio Lloyd, recorder of Chester, attended as Counsel for the Crown, and Mr. Thomas Bell, Inspector for the West Lancashire and North Wales district, was present, under special direction from the Home Office to confer with Mr. Wynne, in whose inspection district the disaster has happened. Mr. Maskell Wm. Peace, town clerk of Wigan, and secretary of the Mining Association of Great Britain, was for the proprietors of the colliery. Mr. Lord, jun., watched the proceedings on behalf of the manager, Mr. Hitton, and Mr. Lord, sen., was present on behalf of the relatives and friends of the deceased. The first witness called was a workman who was near the place where the gas is supposed to have fired, and his examination was followed by that of the underlooker. The enquiry was adjourned until Thursday next, but it will probably be the next sitting after that before the really interesting evidence, that of the engineering witnesses, will be reached.

The amalgamation is announced of the important collieries of Messrs. Pearson and Knowles, at Wigan, with the Dallam Forge Company (Limited), of Warrington and Ince, near Wigan, and the Warrington Wire Iron Company (Limited); the amalgamated firm bearing the name of the Pearson and Knowles Coal and Iron Company (Limited). The capital of the new firm is 1,000,000*l.*, of which the sum of 820,000*l.* is paid up. The chairman of the board of directors is Mr. T. Knowles, M.P. for Wigan. Mr. Peter Rylands, late M.P. for Warrington, and Messrs. John Pearson, Henry Breekly, John Rylands, and Edward Beck form the board of directors. The amalgamation will date from January 1, 1874. The extensive and magnificent collieries of the company have an output of about 800,000 tons of coal a-year, whilst the ironworks, mainly at Warrington, have more than 100 puddling furnaces, and produce upwards of 1000 tons of finished iron weekly in the form of bars, plates, sheets, hoop iron, &c., in addition to the produce of a large foundry, and of a considerable machine shop, producing steam-engines and general engineering work, the whole forming at present one of the largest iron concerns in the county.

Further reductions in the price of coal, after the rate 2s. 6d. per ton for best qualities, are taking place in Lancashire, and there will probably be another reduction of wages very shortly. There are hopes that the lower rates will promote a healthier tone of trade, which has been exceedingly unsettled.

There is a slight improvement in the Iron Trade, but consumers are still very chary in giving their orders, anticipating lower terms.

REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

April 30.—The South Staffordshire Coal Trade remains in a very disorganised state owing to the miners' strike, which has now entered upon the fifth week of its existence. On Wednesday a meeting of coalmasters, convened by Mr. Fisher Smith (the Chairman of the trade), was held at Dudley, to consider a memorial from the miners on strike, praying for the establishment of a Conciliation Court. The meeting was not unfavourable to the proposal, but owing to the absence of the Cannock Chase firms, to whom by some mischance invitations had not been sent, no resolution was passed, and the meeting stands adjourned until next Monday. The unanimous opinion of the coalmasters present was that not only would the reduction now proposed have to be enforced, but that it would be necessary to supplement it, besides adding an hour to the present recognised working day. The extent of the falling off in the demand for coal may be inferred from the fact that although the strike reduces the output in this district so enormously no serious inconvenience has yet been experienced by consumers, nor have prices been in any way affected.

The Iron Trade of South Staffordshire continues in a very languid state. Comparatively speaking there is no business doing, and the situation is one of suspense and anxiety. Prices are easier all round than at the commencement of the coal strike, but this does not bring out orders sufficient to employ such of the works as there is fuel for. While this stagnation characterises the local trade increased supplies of Belgian iron are finding their way into this market, at 2*l.* 10s. to 3*l.* 10s. per ton below the rates ruling for Staffordshire iron of equal quality. Belgian bars are being delivered in Wolverhampton at 10*l.* 10s. per ton. South Staffordshire pigs are offering at 3*l.* 12s. 6d. for common cinder, and 5*l.* 12s. 6d. for mine. Makers of good mine iron who will not sell below 6*l.* have their stocks accumulating. The finished ironmakers in this district are quoting as low as 10*l.* per ton for common bars, marked bars ranging from 11*l.* to 12*l.*, according to brand. The reduction of 1*l.* per ton in the price of best sheets has had the effect of bringing out some orders which the merchants and consumers had been holding over. Galvanised sheets (24 guage) are quoted 23*l.* per ton. This department of the trade will be affected by the rise of 10s. per ton just declared in spelter.

The borings for coal near Wednesfield have proved successful, the top seams of the thick coal having been found under an area of 300 acres. One of the measures is 8 ft. thick, and the coal appears to be of excellent quality.

Mr. Gerhart, of Coseley, has invented a process (the particulars of which are a secret for the present) for making iron from tap cinder, which in Middlesborough and other districts is regarded as mere refuse. By a previous invention, already described in our columns, Mr. Gerhardt has demonstrated the practicability of making wrought-iron direct from the ore, and thus dispensing altogether with the use of the blast-furnace.

Quotations for shares in local coal and iron companies on the Birmingham Stock Exchange include the following:—Chillington Iron, 6; John Bagnall and Sons (Limited), 7½; Sandwell Park (Limited), 300, buyers; Cannock and Huntington Colliery (Limited), 1½; Ivy House and Northwood (Limited), 1 prem.; Birmingham Wagon 18½; Muntz's Metal, 2½ prem.; and Patent Shaft and Axletree (Limited), 5½ prem.

The North Staffordshire Iron Trade is, on the whole, slightly better, but anything like a steady trade is prevented by the unsettled and irregular state of prices. Pig-iron is offering at 3*l.* 10s. to 4*l.* per ton at the furnaces. Finished iron is quoted on the basis of 11*l.* for marked bars. For the moment the demand is quiet, the orders on account of the North of Europe being particularly small for the season. Coal is in plentiful supply, and the consumption increases slowly. Iron ores are in request, at 16s. to 18s. per ton, loaded into trucks or boats.

REPORT FROM MONMOUTH AND SOUTH WALES.

April 30.—There is, on the whole, a little less apprehension as to the probable relations between masters and men when the terms of the notices now issued shall have expired. There is some consolation in the fact that there are yet some three or four weeks to elapse before existing contracts terminate, and there is a possibility that the position of the trades might alter before that time arrives. At present, however, the Coal Trade appears rather to grow duller, and stocks are increasing. Many of the men perceive this, and there is a tendency to lessen the opposition to the proposed reduction in wages, although there are still protestations against it. Mr. Halliday has addressed several meetings of colliers, and his counsels tend to conciliation, so that it was generally understood that he recommended the men to accept a small reduction. The Amalgamated Association also, after considering the matter as relating to this district, recommend the employers and the representatives of the men to discuss the position among themselves, with a view to some amicable arrangement being come to, so as to avert a strike or lock-out. Whether the men will act upon this advice or not has not yet transpired. So dull is the enquiry for coal at present that only two days' work is done in the week at many of the pits, and in some pits only one day's work. On all the local lines long trains of coal are to be seen at the sidings and other places.

In regard to the Iron Trade, it may be said that the works continue in operation, and some of the establishments are better employed than others; but it cannot be said that any of them are well employed. During the week, however, a number of small quantities of rail iron have been cleared foreign from the local ports. The Aberdare Company have cleared some 2000 tons rail to Antwerp in the last few days; the Dowlais Company, 1050 tons rail to Cronstadt and 850 tons Riga; Nanty-Glo and Blaina, 984 tons to Taganrog; and Crawshay (Cyfarthfa) to Rosario. The above are the only instances in which it may be said that anything like large orders have been executed this year. The fact is to be attributed to the same cause now as for the last two or three months, and that is that buyers will not give out large orders until the trade assumes a more settled state again; and makers, for the same reason, would not care to accept them. However, "when things are at the worst they often mend," and there are few connected with the iron trade who would not like to see this adage realised. Things could not well be much worse, and if they do not soon mend the trade stands a good chance of coming to a dead lock. Manufacturers have been disappointed in all directions. Russian orders which were expected with almost the first glimpse of spring have scarcely yet begun to arrive, and there is scarcely anything doing on colonial or home account. There appears to be no help for it but that this unsatisfactory state of things must go on at least some little time longer. The re-adjustment of prices and wages has still to be effected, and what may transpire before it is accomplished cannot well be foreseen.

Matters in connection with the Tin-Plate Trade appear to be just a little more hopeful. There seems to have been a disagreement as to the line of action to be taken, and some of the masters have withdrawn from the contract. There is a prospect, therefore, of at least some of the masters and men conferring upon the matters in dispute; and it is possible, if not probable, that if they do so they will come to some amicable arrangement.

THE TIN-PLATE TRADE.

SIR,—A general opinion prevails that the sole question between the tin-plate manufacturers and their men is simply one of wages. This is not so, although that question is, no doubt, a very important matter. There is, however, another question of very grave importance—the interference of the men's Union with the masters in the management of their works. I send you some of the resolutions passed at a meeting of the Men's Independent Association on the 25th ult. I think you will agree with me that, if these and similar resolutions are to be passed and acted upon, the masters could not carry on their business. A MASTER.

Resolution No. 7—"That the Ystalty men be allowed to work out the second notice."

Resolution No. 8—"That the workmen at Pontardawe be requested to give 28 days' notice on April 1 next, if their masters persist in stopping John Gage and Enoch Jones."

Resolution No. 9—"That this meeting considers that, the boxer now washing at Morfa Tin Works has not been promoted in accordance with our rules, and that the Watch Committee at the said works be requested to see that he is replaced as boxer."

Resolution No. 10—"That the carpenters and fitters of Ynispenllch be allowed to give a month's notice if the engineer in question be not discharged."

Resolution No. 11—"That this meeting is of opinion that in the case of the shinglers at Cwmbwrla the first hand to take as much work as he can do, at the customary rates of wages, and that the remainder be given to the assistants at the same rate; each party to be paid from the office."

Resolution No. 12—"That the assorters at Old Castle be requested to abide by the customary rate of work." JENKIN THOMAS, President.

TRADE OF THE TYNE AND WEAR.

April 30.—The Steam Coal Trade in Northumberland has been pretty brisk of late. The Cambois, Cowpen, and other large collieries have been working regularly, and about 11,000 tons of coal has been shipped per week at Blyth, a great portion of this being for foreign ports, mainly for the Baltic. Good shipments have also been made from the Tyne and Wear, and the import trade of the Tyne especially has been very large of late. There is no change of importance in the prices of coal and coke; best steam coal is still quoted at 18s. per ton, but coal of good quality can be got for less money. Coke for shipment is quoted at 30s. per ton, and at the ovens at 20s. per ton, but good coke can now be had at the works at 18s. per ton. As we anticipated, the wages question between the Northumberland miners and their employers was amicably settled on Saturday. The miners offered to accept a reduction of 10 per cent. instead of 18 demanded by the owners, and after some discussion the proposal was agreed to; an intimation, however, was made by the masters to the effect that in all probability a further reduction must be made in a short time. This arrangement is very favourable for the men, as the reduction is not to be made of 10 per cent. on the gross earnings at present, but as they received advances equal to 50 per cent. the reduction is to be made by rendering the advance to 40 per cent. from the original prices. This will, we believe, make the actual reduction in present rates about 5 per cent. As the notices given to the Durham miners for a reduction of 20 per cent. expires on Saturday, there is great excitement amongst the men, the public, and all parties concerned, and much speculation as to the course that will be taken. The men have meetings daily in some localities on the eve of what may possibly be a great battle. They show a most lamentable want of discipline; they appear, indeed, in many cases to pay little attention to their leaders and the executive of the Miners' Union. At most of those meetings resolutions are passed to the effect that they will submit to no reduction, and at others that they will strike, while some go as far as to determine that they will demand an advance on their wages. In one case, however, a meeting was held by 2000 miners employed at the North Hetton Collieries, and wiser counsels prevailed there, for a resolution was passed agreeing to accept a reduction of 10 per cent.

The Iron Trade is firmer, and a better enquiry for pig metal, which has slightly advanced in price. No. 1 is now quoted at 67s. 6d. to 70s.; No. 3, 62s. 6d.; No. 4 forge, 55s. to 57s. 6d. net cash. Complaints are still made of the scarcity of rail orders and finished iron generally. Heavy rails are quoted at 9*l.* per ton, and plates at 11*l.*; others are in proportion. Some good foreign orders for rails are expected soon. The iron ore miners oppose strongly the proposed reduction in their wages. A meeting was held at Middlesborough, on Tuesday, when Mr. Greaves, secretary of the Cleveland Miners' Association, and several members of the council, met the mineowners and discussed the question. Mr. David Dale occupied the chair. The men were informed that the masters were determined to adhere to the reduction of 2*l.* per ton, or 12½ per cent. In the course of the discussion the men proposed to refer the matter to arbitration, and it was agreed that if that course were adopted the mineowners should deduct 12½ per cent. off the wages pending the decision of the arbitrators, and claim a reduction of more than 12½ per cent.

NORTH OF ENGLAND INSTITUTE OF MINING AND MECHANICAL ENGINEERS.—A general meeting of members will be held on Saturday, when a number of gentlemen stand for election, and the following business is to be brought forward:—1. "Some Remarks on Mr. Hedley's Paper 'On the Valuation of Mines

for the Purposes of Local Taxation,'" by Mr. G. C. Greenwell, will be read. The following papers will be open for discussion:—"On Hurt and Simpson's Coal getting and Air-compressing Machinery," by Frederick Hurd. "On the Valuation of Mines for the Purposes of Local Taxation," by Mr. T. F. Hedley. A full report of the proceedings will be given in next week's Journal.

Sir George Elliot, Bart., has addressed the following letter to the colliery proprietors and their workmen in the county of Durham:—

"SIRS,—For several months past, from circumstances of a most painful nature, I have been unable to take any active part in the conduct of colliery affairs in the county of Durham. I am, however, deeply impressed with the gravity of the important crisis occasioned by the issue by the proprietors of a notice of their intention to reduce wages by 20 per cent. after May 2 next. At this distance all I hear points to the strong probability of a strike, which, if once commenced will, I fear, be of long duration, and must necessarily inflict great misery and loss upon all concerned. With such a prospect before us I venture, without any consultation with others, to give expression to my own individual opinion as to the best course to be adopted. The precedent which furnished a solution of the great difficulties existing in South Wales in 1871—*i.e.*, a reference of all differences to arbitration—naturally occurs to me; it had the effect not only of settling the then pending differences, but the same court has since served to decide some disputes which have since arisen. Convinced of the soundness of this course, I should propose that the same gentlemen who acted as arbitrators on that occasion—giving them and since general satisfaction—should again be entrusted with similar powers for the adjustment of the threatened disputes. The arbitrators were Mr. Macdonald, M.P., Mr. G. P. Bidder, Q.C., and Mr. Macnamara, now a member of the Railway Commission. I would further suggest that there should be no suspension of work during the deliberations of the arbitrators—which would probably extend over many weeks; that instead of a reduction of 20 per cent., as proposed, a reduction of 10 per cent. should be provisionally agreed to by both parties, and that when the award is given any differences between such provisional reduction of 10 per cent. and the amount awarded shall be paid by the proprietors or deducted by them as the case may be, the mode of making such payment or deduction to be stated in the award. These suggestions, if followed out, would, in the first place, avert a general strike, which has not occurred in the county of Durham for 30 years; secondly, a reasonable means would be provided for the making of a thorough investigation of all the circumstances leading to the formation by the arbitrators of an independent judgment upon all matters at issue; thirdly, the merely provisional diminution of 10 per cent. would be a temporary compromise without prejudice to either party, and subject in all respect to the final award. Considerable further advantage would result from the power of appealing to the arbitrators or the umpire in any subsequent dispute. I am not without the hope that on my intended visit to the county in the course of next month I shall find this suggestion will have met with acceptance, and that the evils which threaten all classes will have been averted. I am Sirs, your obedient servant,—GEORGE ELLIOT: *Hotel Bristol, Paris, April* 30."

THE FOREST OF DEAN.

May 1.—There has been a conference between masters and men this week relative to the proposed reduction of 25 per cent. in colliers' wages. Mr. Goold was the spokesman for the masters, and he showed very clearly that the prices reported to be obtained for coals were altogether fallacious. He offered to produce his books to the authorised delegate of the men in proof of his statements. After some discussion, it was resolved to defer the consideration of the question for a week, in order to secure the presence of Mr. Halliday. There is no doubt that the colliers will submit to a 10 per cent. reduction; but this is not sufficient, and it is probable that a compromise will be arrived at by 15 per cent. drop being agreed to on both sides.

The Bilson and Crump Meadow Collieries Company (Limited) has been successfully launched, the letters of allotment and regret having been issued. The company has secured a most valuable property with a large and steady output averaging 10,000 tons per month. The shareholders have the substantial guarantee of the vendors that the dividend will be at least 10 per cent. per annum for the first five years, and the probability is that the dividends will be far more.

REPORT FROM DERBYSHIRE AND YORKSHIRE.

April 30.—Work at the lead mines is of a steady but of a not very progressive character, and we hear of no new mines being opened out, and there are but few inducements for ordinary miners to work on their own account, seeing that many of those who have done so have not been able to make the ordinary wages, and these are low enough certainly. But lead mining does not require the same skill as is necessary for those engaged in raising coal. Probably more mines were worked in Derbyshire in 1872 than in almost any other county, yet the output was not equal to what it had been a few years previously. With one or two exceptions there have been no demands for increased wages, although many of the men raising the lead ore do not receive more than 15s. a week. Such, however, has not been the case with the colliers, who at the present time are struggling hard to keep up the rate of wages paid when coal was fully 40 per cent. higher than it now is. In fact, the wages question in Derbyshire is likely to lead to a serious interruption to business unless it is settled at once. The men have so long been luxuriating on four or five days' work weekly, with a very high rate of payment, that they are, of course, averse to any reduction, and would like to keep up the price of coal to a much higher point than it now is for their own selfish gain, for they give no thought as to how it affects other industries or keeps thousands idle half the week. The Coal Trade itself is far from brisk, and the business doing with the metropolis is comparatively quiet, and is likely to be still more so as the season advances, for a large proportion of what is sent there is household. There has not been so much recently sent out from some of the pits in the Colnor Park district, owing to the men being away from work. From Langley Mill a fair tonnage has been forwarded to the South, as there has also been from the Ekington district. The Great Eastern Railway is not taking quite so much as it did at Peterborough from the Midland field. The trade with Grimsby for shipment has scarcely commenced yet to the North of Europe from the few collieries that send there. The ironworks in Derbyshire continue to be very fairly off for business, and the mills are kept well going, as are also the foundries. Makers of malleable castings and the Bessemer Works at Dronfield are well supplied with orders.

The Sheffield Trades are in much the same state as they have been for some time past, and with regard to several of them the prospects of any marked improvement are by no means cheering. The Bessemer Works are in a healthy state, and several new contracts it is understood have recently come to hand for rails. Railway material is in slightly better request, but the cutlery branches are very dull. There is an uneasy feeling prevailing as to the future since the failure of the Master Cutler, the recent revelations of one of our largest wire mills, and the by no means satisfactory state of another one. The state of the Coal Trade, too, is far from satisfactory, and the very high prices which have prevailed for some time have, undoubtedly, had a serious effect upon the business of the town, and led to increased competition on the part of the Belgian manufacturers. In the neighbourhood of Rotherham trade, on the whole, is good, there being a good demand for rails, railway material, and tires, and axles. Foundery material is in good request both as regards iron and brass castings.

The Coal Trade in what is known as the South Yorkshire district is rather quiet as regards household qualities, and is not not likely to improve now that the fine weather may be said to have set in. The consequence is that prices are not so high as they have been, and a very good quality can be purchased as low as 11s. 6d. per ton, and Silkstones 11c. The latter are quoted at 30s., delivered in the metropolis, so that merchants must be making considerable profits, for the charges from the district (say) to King's Cross, including carriage rate and City dues, as well as wagon hire, does not amount, at the most, to more than 9s. 7d. per ton, or a total cost of 23s. 7d. Next week it is expected that business for the season will be commenced in the shipment of steam coal to the Baltic, as St. Petersburg, Cronstadt, and some other ports are now open. There is not much doing from the district with Hull, but a good deal of coal is being sent there from West Yorkshire. On Tuesday a preliminary meeting of colliery proprietors was held at Barnsley for the purpose of arranging for a general meeting of the trade on the question of a reduction of wages. The meeting will take place next week, and there is every reason to believe that the reduction will be such as will be acquiesced in by the men.

THE DARFIELD MAIN COLLIERY.—At this colliery, which it will be recollected had to be sealed up for a considerable time owing to the coal having caught fire in October, 1872, and inflicting a loss on the proprietors of more than 100,000*l.*, we are glad to say that the work of clearing has been nearly completed. This has been done in a most able manner under the superintendence of Mr. Wilson, the underground manager, whose energetic efforts have led to the operations being so far completed that from 300 to 400 tons of coal are now being raised daily, and before very long that quantity will be greatly increased. Great improvements have been made in the mode of ventilation since the accident, the general manager—Mr. Huntress—having evidently spared no expense in introducing every improvement calculated to ensure the safety of the mine, as well as the miner. There has been some little alterations made in the patent fan of Messrs. Easton and Tattashall, which now works most admirably, and leaves nothing to be desired. By it almost any quantity of air, up to as high as 100,000 ft. per minute, can be obtained. It has been worked at the colliery up to 208,000 cubic feet per minute, with 58 revolutions, whilst 100,000 ft. is obtained with about 34 revolutions. The working places on the right side have been extended about 400 yards. On the dip side they are getting the water out, and have extended operations in that direction about 150 yards, so as to win the coal. The two great faults have been passed through, one being 17 ft. About 230 yards of arching have been put in, the brickwork being 24 ft., requiring 2,000,000 tons of bricks.

STEEL IN THE UNITED STATES.—The production of steel in the United States last year is computed at 168,000 tons. In this total Bessemer steel figured for 140,000 tons, and cast-steel for 28,000 tons. The corresponding aggregate production in 1872 was 142,500 tons, Bessemer steel figuring in this total for 110,500 tons, and cast-steel for 32,000 tons. In 1871 the steel production of the United States did not exceed 82,000 tons, to which total Bessemer steel contributed 45,000 tons. In 1870 the aggregate production was 75,000 tons, of which 40,000 tons were Bessemer steel. In 1865 steel was made in the United States to the extent of 15,262 tons, in 1866 to the extent of 18,973 tons, in 1867 to the extent of 19,000 tons, in 1868 to the extent of 30,000 tons, and in 1869 to the extent of 35,000 tons. The manufacture of steel in the United States has thus been "marching on" very decidedly during the last ten years.

INSTITUTION OF MECHANICAL ENGINEERS.

The general meeting of members was (by permission of the Council of the Institution of Civil Engineers) held at Great George-street, Westminster, on Thursday (Mr. F. J. BRAMWELL, F.R.S., in the chair), and papers on the "Transmission of Power by Turbines and Wire-Rope," by Mr. Henry M. Morrison, wire-rope manufacturer, of Manchester; and on "Darlington's Rock-boring Machine," by Mr. Thos. B. Jordan, communicated through Mr. Richard Taylor, of Messrs. John Taylor and Sons, were read and discussed. All consideration of the principles of acoustics having been ignored in the construction of the room, the Civil Engineers having apparently been their own architects, with the result usually attributed to men who are their own lawyers, the proceedings were often inaudible, and frequently interrupted by cries of "Speak up," &c., which, coupled with the fact that reporting was forbidden to the representatives of the Press, deprives the account of the meeting of its chief interest. The notice convening the meeting having been read, Mr. A. PAGET gave notice that at the next meeting he should move a resolution with reference to their "Transactions," in accordance with a letter addressed to the Council. To this the PRESIDENT replied that the letter had been received and considered by the Council, so that the matter was disposed of.

The paper by Mr. Morrison described the system of teledynamic transmission introduced by the Brothers Hirn, and now extensively used at Schaffhausen, on the Upper Rhine. It appeared that they first used flat metallic bands to transmit the power, but these being found objectionable round wire-rope was subsequently adopted instead. The rope is usually made of fine steel wire, as it must be very tough and flexible This wire-rope, which is about 1 in. diameter, and contains 72 strands, is run at a high velocity, over pulleys of large diameter. The total loss of power by friction, &c., was stated to be 2½ per cent., and it appeared that of 120-horse power existing at the motor turbine 100-horse power was utilised at 2200 yards distance; but it could not be elicited in the discussion how these figures had been arrived at. It was also estimated that iron shafting, capable of transmitting the same power, would involve the use of 3000 tons of material. Various materials were tried for facing the grooves of the pulleys, such as copper, leather, &c., as there was either excessive wear in the groove, or the facing destroyed the rope. The best arrangement was found to be a dove-tail groove, filled in with gutta percha, in which the rope soon made a channel for itself, after which the wear was not excessive. The pulleys run at the rate of 50 miles per hour, and the ropes last from 1½ to 2 years.

In the course of the discussion, Dr. C. W. SIEMENS, F.R.S., remarked that there was no doubt that by running ropes at from 30 to 60 miles per hour over pulleys a large amount of power could be transmitted with but little waste. About 1000 or 1500 horse power were utilised in the whole valley.——Mr. J. LEE THOMAS had seen a similar system working most successfully at a lead mine about a mile from the river which supplied the power in Oviero, near Oporto. The pulleys were here about 200 ft. from each other, and they were pumping, drawing, and working the dressing machinery by means of the apparatus. The pulleys were covered with leather laid edgewise, and there was a communication from the mine to the river, so as to stop water in the turbine if anything goes wrong: the power used was about 100 horse.——Mr. A. PAGET observed that the rope appeared not to wedge into the V, which seemed to be objectionable, as in hoists they found that the power was increased if the rope did not touch the bottom of the V.——Mr. RAWLINSON suggested that other inconveniences would counterbalance the advantages.——Mr. PAGET must still maintain that if the same adhesion could be obtained at 30 miles as at 60 miles per hour, the speed might be lowered, which would certainly be advantageous.——A MEMBER enquired how the power developed at the turbine and at the opposite end respectively was ascertained; but the question was not answered, the author of the paper having no more practical details than those given in the paper.——Mr. BROWN had used the same system in the bed of the Avon at Bristol to work an archimedean screw-pump, to remove rapidly at each low tide the mud and water from within a coffer dam. The power was supplied from a portable engine on the bank, 30 yards from the pump, and it worked satisfactorily—that was to say, as a transmitter of power it answered well.——The CHAIRMAN would like to have known the actual cost of transmitting the power, and also noticed that the paper did not state how the power was finally applied.——Mr. WELSH was of opinion that the mode of transmitting power by wire ropes, as described in the paper, was certainly not the most economical. He believed that to supply the water through pipes at a fair pressure from an accumulator would be preferable. The wear and tear of pipes would be infinitely less than that of the wire-ropes, and where it was necessary to take the water up hill the waste water could be utilised to compensate for the loss of power that would otherwise take place.

It was again urged that it would be well to know how the alleged economy was ascertained, whether the company formed at Schaffhausen consisted of the users of the power, and how it was shown to be 40 per cent. more economic than steam.——Mr. WILLIAM SMITH enquired what was the object of the paper. Was it designed to point out any improvement in the construction of the turbines, or was it to claim a novelty for the use of wire-rope for this purpose. In 1837, soon after his father had invented wire-rope, it was used very similarly, and in 1839 and 1840 it was introduced on the Regent's Canal for towing barges through the tunnel beneath the Harrow-road, and it was also taken 3½ or 4 miles along the bank of the canal. The bargeman simply threw a catch line over the running wire, and let go when necessary. It was tested against the screw, duck-foot propeller, and others, but was not found to be economic. He had many times seen a similar application of the principle; the fly-rope of an ordinary ropery was an illustration, but that had long since been obsolete. He would like to know whether the paper claimed as a novelty the introduction of endless wire-ropes for transmitting power to a distance; if so, he doubted whether the claim could be substantiated. If the novelty merely consisted in the running of the ropes at a high velocity, which was all he could see in it, there might be something in the claim.——Mr. MORRISON, the reader of the paper, said that each rope contained 72 wires in the strand, and that by so many wires being used the rope becomes almost a round bar. A committeeman said that as to the lamentable amount of friction which was feared with wire-rope, it should be mentioned that whilst water friction increases as the square of the velocity (it is to be hoped the speaker did not confuse velocity and pressure in estimating the relative economy of wire-rope and water in pipes), the wire-rope friction increases in the ratio of velocity only.——Dr. SIEMENS would also remark that by the use of the rope one hydraulic motor suffices, whilst with transmission through pipes two motors would be necessary. This is no doubt true, but proves nothing as to the relative economy of the two systems.——The CHAIRMAN did not appear to attach so much importance to an absolute saving being effected as to the fact of the use of fuel being dispensed with in obtaining the power. At Schaffhausen they had been utilising the waste power of the Rhine since 1866, and he thought that if they could get power from a source which did not use power, it would be an advantage if it were only to leave more fuel at disposal for metallurgical and other operations in which it is indispensable.

The paper of Mr. JORDAN described a new drill invented by Mr. John Darlington. It is a modification of the Sachs drill, and amongst the advantages claimed for it are that it has no valve, tappet, stop, or destructive striking gear, and does not necessitate a heavy pressure to work the piston, a circumstance of great moment when compressed air is to be employed. The stroke and blow are effected solely by the operation of the piston in connection with a passage and portway in the cylinder, and the length of the stroke is rendered long or short according to the rate of speed, the force of the blow being thereby varied to suit the character of the stone to be bored. Air or steam is worked expansively, and there are no wasteful clearance spaces to be filled and exhausted at each stroke. There is an automatic arrangement for rotating the borer, but there is no automatic feed, Mr. Darlington arguing that as a man must attend to the machine he may as well attend to the feed. One sharpening of a drill used for hand drilling will bore 4½ in., whilst in a machine a similar drill in similar rock will drill 27 to 33 in. before requiring re-sharpening. This is partly owing to the accuracy of the stroke, and partly because the drill can be differently pointed. With a machine drill four times as much work can be done as by hand labour, so that if there be no saving in actual cost of drilling three-fourths of the fixed charges will be saved. To render the use of boring machines fully advantageous the blasted debris must be removed quickly.

The main object should be to blast and bore holes almost continually, or otherwise, to bore the face with holes of a given depth, and in such a position as will admit of withdrawing the machine and blasting from the centre outwards. Ordinary blasting or compressed powder may be advantageously used for slaty rocks and sandstones. For wet cellular or hard ground dynamite is to be preferred For mine shafts, sinks, and levels the boring machine may be attached to a stretcher or post, or for driving headings the borers may be fixed in a trolly frame. In open-air work steam may be used for the purpose of driving the borer; the boiler should, however, be placen near to the boring machine, otherwise considerable loss of the initial pressure will be occasioned through the heat radiating from the pipes.

The discussion was opened by Mr. TAYLOR (Messrs. John Taylor and Sons) expressing regret at Mr. R. Taylor's absence, and observing that he believed that many present who, like himself, had seen the drill in use, were pleased with the tool for its simplicity. Practically there is no difficulty in fixing or driving it, and there appeared to be none in working it. It seemed to him to recommend itself for its great simplicity, and because the drills could be quickly changed and the speed as readily varied. All they wanted was a machine that would do its work well and properly, for he believed that no very great speed will be found desirable. The mode in which the turning of the tool is effected in this drill appeared to him to be very ingenious. The absence of a valve was also a great advantage. They had sent some to the Cape, and were also trying to introduce dynamite, believing that with power-drills and dynamite they would get on much better. He might mention that the great advantage of dynamite appeared to him that it shattered the ground downward, so that each shot did a very large amount of work.——Mr. WELSH said that, as to the grooves in the piston, and the effect of oil in them, he had applied similar grooves, which were an American invention, to an engine which he constructed, and he found that as long as the grooves were free from oil the gland was steam-tight, but when the oil got in they clogged, and caused inconvenience; indeed, the difficulties were such that they had to be abandoned.——Sir J. COURT appeared to be explaining the advantages of the Ingersoll drill, but his remarks were inaudible.——Mr. WESTMACOTT seemed to give preference to cutting off the steam before the stroke rather than keeping the steam on until the blow was actually struck, but he could not be induced to speak up.——Mr. JORDAN explained that in the experiments which many of the members had witnessed that morning the tool had drilled 6½ in. per minute in gneiss and in hard Cornish granite. He considered Sach's machine too delicate for the purpose to which it was applied.

It being too late to read the third paper put down on the notice, "On the Application of Water Pressure to Driving Machinery and Working Shop Tools," by Mr. Ralph H. Tweddell, of London, the Chairman declared the meeting adjourned until Aug. 4, at Cardiff.

LONDON INTERNATIONAL EXHIBITION, 1874.

Although the variety of exhibits is by no means large, there are several machines and apparatus worthy of inspection; there being two rock drills, an ingenious little petroleum engine, some good arrangements for economising fuel, and many excellent sanitary appliances. Specimens of bores, and a section of bore-hole are exhibited by the Diamond Rock Boring Company; and Messrs. Bickford, Smith, and Co., of Tuckingmill, Camborne, show some good samples of their safety-fuse. Messrs. Fred. Braby and Co., of Euston-road, have some good zinc and other metal roofing; and the Cwmorthin Slate Company, of Portmadoc, have sent excellent samples of roofing slate. The Improved Industrial Dwellings Company exhibit architectural models of good designs for industrial dwellings and specimens of artificial stone used in the construction of their dwellings; and the patent invisible solution for preserving stone, brick, plaster, iron, &c., recently introduced by the Indestructible Paint Company, is also represented.

THE KAINOTOMON DRILL.—In the room devoted to machinery in motion Mr. T. A. Warrington exhibits his kainotomen drill, with the merits of which the readers of the *Mining Journal* are already familiar. It was not in operation on the occasion of our visit, but as a good block of granite is under the drill, and the steam-tap has merely to be turned on to put it in motion, those desirous of witnessing its performance could, no doubt, do so by giving a few hours previous notice.

INGERSOLL'S DRILL.—Immediately adjacent to the kainotomon is another drill of very similar appearance, but which is claimed to possess special advantages. The inventor is Mr. Ingersoll, an American, and it is being introduced into this country by Messrs. Le Gros and Silva, of Stoke Newington. The drill which is in operation at La Collette, Jersey Harbour Works, can be driven either by steam or compressed air, and is provided with an automatic feed which appears to act admirably. It is said that whether the rock be hard or soft the piston never acts upon the feed until the rock is penetrated sufficiently for this purpose, which results in steady and rapid drilling therefrom. The drill has few moving parts, and is cushioned at each end inside the cylinder, and beyond the regular piston stroke, the object being to avoid jar, shock, and injury. Again it differs from, we think, all other drills in not employing the steam expansively, and it is claimed that the principle of forcing the piston until it strikes the rock is of great and decided importance, because in proportion to the pressure of steam or air used so is an increased speed in the penetration of the rock attained. The durability is a very important recommendation in its favour; and it is found to be very inexpensive to maintain in repair. At Bergen Avenue, New Jersey, one drill has been in use for upwards of 18 months, and has averaged 23 ft. per day, the holes being 4 in. in diameter, and from 18 ft. to 24 ft. deep; the rock is a hard crystalline trap. The machine at work at Jersey has given great satisfaction. Writing in February, after the machine had been in use for several months, Mr. Imrie Bell, M.I.C.E., the resident engineer, stated that the working parts are so simple, and yet so strong, that it has not required any repairs. The rock is a syenitic granite, with greenstone and trap, and is the hardest stone he has ever seen, and in his opinion is a thorough test, for the machine which in ordinary work of 10 hours per day has accomplished with a 3 in. drill a depth of 14 ft. inclusive of all stoppages.

PATENT JOINT FOR STONEWARE PIPES.—An excellent form of joint for stoneware pipes is exhibited by Messrs. Henry Doulton and Co., of Lambeth. The nature of the material precludes a joint being made by caulking, and an ordinary clay joint will not resist either internal or external pressure. Nor is a cement joint trustworthy, being liable to leakage on the slightest settlement of the pipes—its soundness also being impaired either by the expansion or contraction of the cement. A most complete joint is made by making the spigot of one pipe to fit mechanically into the socket of another. Such a mechanical fit cannot be obtained with stoneware or earthenware pipes, owing to the difficulty of preserving perfect accuracy of form during the process of burning. In the invention now introduced to public notice a tight joint is obtainable by casting upon the spigot and in the socket of each pipe, by means of moulds prepared for the purpose, rings of cheap and durable material, which when put together fit mechanically into each other, and by making these rings of a spherical form a certain amount of movement or settlement may take place without destroying the accuracy of the joint.

WATER WASTE PREVENTION.—Some 12 months since reference was made to a novel and ingenious method of preventing water waste, introduced by Messrs. J. Tylor and Sons, of Newgate-street, and the practical application of the invention, which is due to the ingenuity of Mr. A. Tylor, is shown in a large series of very elegant exhibits by Mr. W. Smeaton, plumber and sanitary engineer, of Newcastle street, Strand. It will be remembered that the essential feature of the "waste-not" valve is the arrangement for lifting a free piston valve by means of a similar piston within the control of the person using it, and that both pistons working under water-tight packing become unnecessary, and friction and wear and tear are reduced to the minimum. Upon the upper piston being raised, whether by the turning of the tap handle to which it is attached, or by the movement of a ball lever, the suction created in the cylinder draws up the plug, or free piston valve, and thus opens the communication between the inlet and outlet of the cylinder, the flow of water continuing until the free piston has had time to fall again upon its seat. As the time occupied in falling can be regulated to the greatest nicety, it is easy to construct taps to deliver any desired quantity from half a pint to any number of gallons, and then close themselves. The same tap can be regulated within certain limits, so as to vary the quantity delivered at each lift of the working piston; but there is really no inconvenience in fixing the discharge at the minimum since the valve is ready for action again the instant the free piston has fallen upon its seat, or even sooner, so that when necessary a constant flow of water can be kept up, as in the case of the ordinary tap. But the great advantage is that not more than the predetermined quantity—a pint, a gallon, &c., as the case may be—will flow after the tap has been left to itself. The avoidance of waste,

however, is not the only recommendation of the tap; it permits of the same amount of accommodation being secured with smaller cisterns, smaller pipes, and generally with the consumption of much less material, so that the adoption of the principle would in a measure compensate for the enormous increase which has taken place in the price of iron, metal work, and, in fact, in all things used for constructive purposes. The application of the "waste-not" valve is well shown in a new pattern shell basin intended for hot climates, and therefore so designed that it would form a handsome ornament even in the corner of a well furnished drawing room. The angle urinal is also an excellent arrangement; it is provided with Tylor's valve and Smeaton's newly-invented stench trap, and is fixed within an elegant little cabinet, so that when the door is opened there is a good flow of water through the urinal, whilst upon closing the door the flow is stopped as soon as sufficient has been admitted to well wash the pan; the simplicity and cleanliness of the contrivance being almost beyond praise. There are several specimens of urinals suitable for mansions, warehouses, railway stations, or public places; the imperial bath, including spray, shower, douche, and plunge, and various forms of lavatories. The invention appears to be well deserving of general adoption, and from the extent of appreciation it has received during the short time it has been before the public it will doubtless secure it.

IMPROVED LOCK.—The neatness of the ordinary mortice lock has often to be dispensed with in consequence of the objections existing that it weakens the door, and is very expensive to fix; in addition to which a mortice lock is usually a costly little article, and rather liable to get out of repair. To remove these inconveniences Mr. A. W. Pocock, of Church-street, Westminster, has invented an improved two-bolt centre bit mortice lock, for which he claims the special advantages that it is the cheapest lock, considering its quality in the market; that it has greater facility than others for being fitted to doors, an ordinary workman being able to effect the fitting in 10 minutes; that the smoothness of the action of the spindle both ways is equal to that of the most expensive locks; that the smallness of the mortice required for it does not necessitate the weakening of the door; and that the absence of friction in its working parts renders it very durable. The economy of space observable in the new lock has been rendered possible chiefly by the substitution of a spiral spring for the form usually employed in locks, and the inventor has proved that the spiral spring is equally durable by causing the bolt of one of them to be shot by machinery as many times as would represent the opening and shutting of a door some 50 times a day for 50 years; a test which most people would consider sufficient to justify them in buying a four-shilling lock.

In the Court of the Vice-Warden of the Stannaries. Stannaries of Devon.

IN the MATTER of the COMPANIES ACTS, 1862 and 1867, and of the GEM TIN MINING COMPANY (LIMITED).—Notice is hereby given, that a PETITION for the WINDING-UP of the ABOVE-NAMED COMPANY by the Court was, on the 28th day of April instant, presented to the Vice-Warden of the Stannaries, by Frederick Warwick, of 25, Bucklersbury, in the City of London, Public Accountant, a shareholder in and also a creditor of the said company, and that the said petition is directed to be heard before the Vice-Warden, at the Law Institution, in Chancery-lane, in London, on Wednesday, the 13th day of May next, at Twelve o'clock at noon.

Any contributory or creditor of the company may appear at the hearing and oppose the same, provided he has given at least two clear days' notice to the petitioner, his solicitor, or his agents, of his intention to do so, such notice to be forthwith forwarded to P. P. Smith, Esq., Secretary of the Vice Warden, Truro.

Every such contributory or creditor is entitled to a copy of the petition and affidavit verifying the same from the petitioner, his solicitor, or his agents, within 24 hours after requiring the same, on payment of the regulated charge per folio.

Affidavits intended to be used at the hearing, in opposition to the petition, must be filed at the Registrar's Office, Truro, on or before the 9th day of May next, and notice thereof must, at the same time, be given to the petitioner, his solicitor, or his agents.

HODGE, HOCKIN, AND MARRACK, Truro, Cornwall.
(Agents for Alexander Kerly, 14, Great Winchester street, London, (Solicitor for the Petitioner.)

Dated Truro, April 30th, 1874.

In the Court of the Vice-Warden of the Stannaries. Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACTS, 1862 and 1867, and of the BOSCASWELL DOWNS TIN AND COPPER MINES ASSOCIATION (LIMITED).—TO BE SOLD, BY PUBLIC AUCTION, on Monday, the 18th day of May next, at Twelve o'clock at noon, at the Boscaswell Downs Tin and Copper Mines, in the parish of St. Just-in-Penwith, within the said Stannaries, under the direction of the Registrar of the said Court, and subject to such conditions as shall be then and there produced, in One Lot, as a going concern, all that the INTEREST of the said ASSOCIATION of and in the LEASE or LEASES under which its operations within and upon the said mines have been carried on, together with the WHOLE of the VALUABLE and EXTENSIVE

MINING PLANT, MACHINERY, MATERIALS, AND EFFECTS,

And all such ORES, either underground or at surface, as shall be specified by the Auctioneer at the time of sale, belonging to the said Association, and now being within and upon the said mines, and comprising, amongst numerous other effects—

ONE 36 in. cylinder PUMPING ENGINE, equal beam, 8 ft. stroke, with TWO BOILERS, 8 tons each.

60 ft. shears, with 3 ft. shears and balance bob, complete.
150 fms. of 8 in. pitwork, with 50 fms. of 7 in. pumps and lifts, complete.
200 fms. of 8 and 9 in. rods, complete, with 2 balance bobs and 2 fend-offs attached.
200 fms. iron stave ladders; 1 8 arm capstan, with 150 fms. ¾ in. chain.
9 in. 2 ft. long round bottom windbore; 9 in. 4 ft. clack doorpiece.
9 in. 10 ft. plunger pole, with 18 ft. stocking; 6 in. turnpiece, 6 ft. long.
9 in. stuffing box; 1 balance bob, with 30 fms. 1¼ in. rods.
About 1900 fms. of tramroad; numerous tram wagons; about 350 fms. of launders; about 100 fms. of iron stave ladders; 25 fms. old pumps.

WHEAL PAUL.

1 34 in. STAMPING ENGINE, with TWO 8 ton BOILERS, fly wheel, and 36 stamping heads; 30 fms. 10 in. pitwork, complete; 20 fms. 5 in. pitwork, with launders; 5 tin buddles; about 100 fms. launders.

PENDEEN.

1 35 in. STAMPING ENGINE, 9 ft. equal beam, with ONE 10 ton BOILER; 2 fly wheels, with 32 heads attached; 2 patent Borlase buddles; 2 plain buddles, with strips and trunks; 10 hand frames for dressing tin; 80 fms. of iron railroad; 1 tram wagon; 9 stamp plates, and 1 stamp head and 4 bottoms; 200 fms. of launders of various sizes, from 12 in. to 4 in.; No. 1 tin shed, 70 ft. by 50; No. 2 tin shed, 36 ft. by 36; No. 3 tin shed, 66 ft. by 16 ft.; wood roofs and floors.

TREWEEK'S SHAFT.

1 20 horse power portable ENGINE, with 6 ft. cage, and 580 fms. 3 in. steel wire rope; 1 poppet head, with 14 ft. shieves; 5 ft. holding down shieve; 1 22 ft. shieve, with stands; 20 fms. 9-16th chain; 2 skips; 1 tram wagon; 200 fms. of double skip road (underground); 500 fms. of iron stave ladders; 38 fms. of 6 in. pumps; 200 fms. of 9-16th and ⅝ chain (underground); cast iron bob, 2 tons 10 cwts.; 150 fms. 3 in. wire rope; 1 10 ft. shieve; 2 stools and brasses; 3 ft. and 4 ft. shieves, with stand; 2 9 ft. 5 in. pumps; 1 5 in. turnpiece (9 ft. long).

MILSTED'S SHAFT.

Poppet heads, 55 ft. high, with stays; and 1 17 ft. and 1 35 ft. shieves.
140 fms. 9 16th in. chain; 2 skips; 10 fathoms tramroad, with stands; 200 fms. double skip road, underground; 2 4 ft. and 6 2 ft. shieves, with stands; tram wagons.

SMITH'S SHAFT.

1 25-horse power portable ENGINE, with 6 ft. drum; 680 fathoms of 3 in. steel wire rope.
25 2 ft. shieves, with stands; 2 5 ft. shieves; poppet heads, 45 ft. high, with 2 5 ft. shieves; 10 fms. tramroad, on stands; 35 fathoms 9-16th chains; 2 skips; 180 fms. double skip road; 1 single crab winch; 1 4 ft. shieve.

BOSS SHAFT.

1 small poppet head; 1 4 ft. shieve; about 8 fms. chain; 1 large kibble.

SAMPLING HOUSE.

2 small rolls of copper screens for sieves; a small quantity of indiarubber for valves; 1½ doz. new shovels; 7 barrows; mallets and shovels for surface work; 1 scale and weights, for weighing samples; 1 beam and scales, with 1½ cwts.; 1 sample iron, about 3 cwts.; 1 tank; 1 new stamphead; with sundries.

MATERIAL HOUSE.

2½ cwts. 3 in. rope; 1½ cwts. white yarn; 3½ doz. hilts; nails of different sizes; 1 cwt. of railroad heads; antifriction grease; 1 patent scales; 1 small scale and weights; ¾ cwt. 2 in. rope; 11 augers; 4 cwts. brass; 10 cast steel mallets; about 2 tons of ditto wire rope; 70 fms. of 6 in. full rope, and 2 double and 1 treble cap blocks; 4 ft. crown wheel, with axle and crank; 9 in. spur wheel, with shaft; 1 carriage and wheels for portable engines, with sundries; and 2 lifting jacks.

BLACKSMITHS' SHOP.

1 40 in. bellows; 1 35 in. ditto; 1 anvil, 3 cwt. 1 qr. 4 lbs.; 1 ditto, 3 cwt. 2 qrs. 6 lbs.; steel borers; steel pokers; ½ cwt. best nail rod; 1 ton of new iron, various sizes; 4 bridles for bob; about 12 tons of old iron; 1 screwing stock, with 8 taps and plates; 4 wrists for screwing; 8 surface tram wagon wheels; 7 underground wagon wheels; 5 skip wheels; 2 new vices; smiths' and miners' tools; 8 new axles for skips; 3 new axles for surface wagon; 1 weighing beam, with weights.

CARPENTERS' SHOP.

New balance bob, 28 ft. beam, complete; 2 doz. 5 in. rolls; barrows; grinding stone; 1 Morton and Co.'s weighing machine; new and old timber; 132 fms. of new skip road runners.

DRY HOUSE.

1 2 ton BOILER; 1 large tube, 18 ft. long; 2 small tubes, 18 ft. each; about 67 miners' chests.

Account-house furniture, and a variety of other articles and effects in general use in mines.

The plant, machinery, and effects include all the appliances requisite for getting tin ores (the mines having been in full work until a very recent date).

The machinery is by the best makers, and a considerable part thereof has been lately acquired.

The pumping-engine is being kept at work, and the purchaser can commence and carry on operations at once.

To view the same, apply to JOHN BELLINGHAM, the bailiff in charge on the mines; and, for further particulars, to Mr. CHARLES WILLIAM CLINTON, the Official Liquidator of the said Association, at the Stannaries Court Office, in Truro; or to—

MESSRS. ROGERS AND SON
(Solicitors to the said Official Liquidator, Helston); or
MR. R. M. PAUL, Truro
(Agent of the said Solicitors).

Dated Stannaries Court Office, Truro, this 30th day of April, 1874.

IN THE MATTER OF THE DOUGLAS HEAD MINING COMPANY (LIMITED).

IN LIQUIDATION.

TO BE SOLD, BY AUCTION, by order of the Liquidator, on Monday, the 4th day of May, 1874, by MESSRS. BRANCH AND LEETE, at the Law Association Rooms, Cook-street, Liverpool, at Three for Half-past Three o'clock P.M.,

ALL the company's INTEREST in the Crown LEASE of the EXTENSIVE SETT, with the ENTIRE MACHINERY and PLANT, including a small STEAM-ENGINE and BOILER, suitable for pumping and winding, with winding gear, chains, pithead, blocks, winch and chain, pitwork, wooden engine house and coal store, &c., as they may be at the time of sale.

This mine may fairly be described as the best and most promising trial in the Isle of Man.

Four most important lodes are known to pass directly through it, and to converge towards the shaft, which has been sunk about 120 ft., and has already passed through one wall of one of these lodes, and in the immediate proximity of which the whole four lodes will necessarily form junctions, where there can be no doubt that large bodies of ore must certainly be found. This is conclusively proved by the well-known fact that, during the operations of widening the harbour and constructing approaches to the breakwater, as also in taking out foundations for various buildings on Douglas Head, and in making alterations and additions to the Fort Anne Hotel, fine lead ore, sometimes in unusually large and compact masses, has been taken out of the veins in question at these shallow depths.

And attention must also be called to the peculiarly favourable situation of this mine, the works being within a few hundred yards (by a good road) of the quays of Douglas Harbour, and the saving in carriage alone being, therefore, in comparison with other mines in the Island, equivalent to a good profit on moderate returns of ore.

The lease is upon the usual conditions of Crown leases, and is for 21 years, from the 5th July, 1865, at moderate rents and royalties.

The suspension of the works on this mine is attributable to the capital of the company having been mainly exhausted by unprofitable operations on that portion of the sett which is furthest removed from the town of Douglas (the Crown having until a recent period restricted the lessees from working within sight of the town), and to their present works having, at a point when success appeared certain and almost immediate, been interfered with by vexatious legal proceedings on the part of a surface owner, upon a question of underground water.

This question has now been settled by a decision of the Privy Council, in favour of the lessees, with costs; but the company, having completely exhausted its means, has been unable to resume its operations, and has found it necessary to go into voluntary liquidation, and to leave to the more fortunate future possessors of the mine the success which, but for these unlucky hindrances, appeared to be an almost immediate certainty.

Further particulars may be obtained on application to the liquidator, Mr. JOHN BLEASE, Commerce Chambers, Lord-street, Liverpool; or to his solicitors, Messrs. LACES, BANNER, BIRD, NEWTON, and RICHARDSON, 1, Union-court, Castle street, Liverpool.

THE PATENT SELF-ACTING MINERAL DRESSING MACHINE COMPANY (LIMITED).

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IMPORTANT NOTICE TO MINE PROPRIETORS.

This company grant licenses, under their patents, for the use, singly or in combination, of the most approved machinery for dressing ores, comprising Stamps Jiggers, Classifiers, and Buddles.

MR. GEORGE GREEN, Mechanical Engineer to the above Company, SUPPLIES MACHINES under the above Company's Patents for DRESSING all METALLIC ORES. Dressing floors having these Machines possess the following advantages:—

1.—They are cheaper than any other kind in first outlay.
2.—From 60 to 70 per cent. of the labour is saved.
3.—Only about one-fourth of the space usually occupied by dressing-floors is required.
4.—The ore is made clean at one operation, and 5 per cent. of ores otherwise lost is saved.

Drawings, specifications, and estimates will be forwarded on application to—
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EXTRACTS FROM TESTIMONIALS RECEIVED:—

Mr. C. E. BAINBRIDGE, of the London Company's Mines, Middleton-in-Teesdale, by Darlington, writing on the 27th September, 1873, says—"After a full season's experience of the very complete Dressing Machine erected by you at our Colberry Mines, we are fully satisfied with our decision to adopt your patents in preference to all others. The machinery does its work as well as we can desire, and better than we anticipated. We are now getting through 70 tons of orestuff per day, of rich quality. Without your machinery we should have been at a standstill, for we cannot get hands to supply our wants elsewhere. It saves fully one-half of the old wages, and vastly more on the wages we now give, and the saving in ore is not much short of 10 per cent. You can quote from this letter as you think proper."

Mr. COULTAS DODSWORTH, of Haydon Bridge, writes, on the 15th January, 1874:—"I have just returned from the Stonecroft and Greyside Mines, where I have seen your 'Patent Ore Dressing Machinery' at work, with which I must say, I was highly pleased. It is decidedly the best machinery I have ever seen for the purpose, the results being as near perfection as possible, and I am quite sure its use in this case will be a very great saving to the company. No large mining establishment should be without your machinery, especially when labour is difficult to procure—a mere fraction of the hands being only required as against the old system, and the work altogether much better done, and a great saving of ore effected. I have heard it said that your machinery is better adapted for poor than for rich ores, but from what I have seen to day I am quite confident it will do for any kind of ores. I beg not only to congratulate, but also to compliment, you on the great success of your 'Patent Ore Dressing Machinery.' You may use this letter as you think proper."

Mr. MONTAGUE BEALE, Managing Director of the Cagliara Mining Company (Limited), says, on May 15th, 1873:—"I have much pleasure in speaking of the great efficiency of your 'Patent Dressing Machinery,' as erected by you at our mines at Rosas, in the Island of Sardinia. You will remember it has always been considered impossible to dress, or rather separate, the minerals our ores contain by machinery, but our captain assures me he gets a constant return of 76 per cent. of lead with the greatest ease, and I know by the returns we are realising the best market price. I consider this company is much indebted to you for the success you have achieved at so small cost. It may interest you to know, from my experience in several of the British possessions, including the whole of the Australian Colonies, that my opinion is I have never seen any dressing machinery that can efficiently, and at so small a cost, dress, and separate metallic ores, however close the mechanical mixture may be, as yours. You can use this letter in any way you like."

The most satisfactory testimonials also have been received from the GREENSIDE MINE COMPANY, Westmoreland; the TALARGOCH MINING COMPANY, North Wales, and others. Copies of these may be had from Mr. GREEN.

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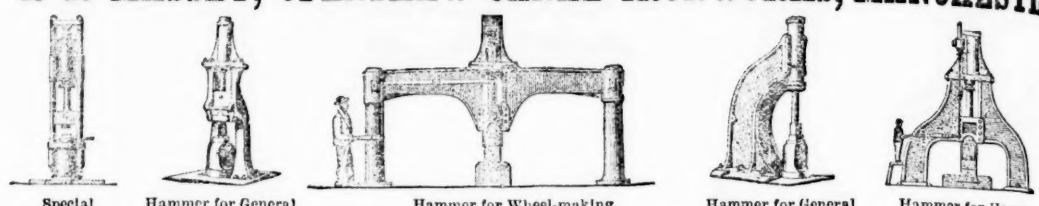

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MANUFACTURERS of every description of MINING MACHINERY, TOOLS, MILLWORK, PUMPING, WINDING, & STAMPING ENGINES.
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Manufacturers of Anvils, Vices, Hammers, Bellows, Tue Irons, Hydraulic and Screw Jacks, Crabs, Cranes, Spades, Shovels, Picks, Arms and Boxes, Axles, Springs, Hurdles and Fencing, Screw Bolts, Washers, Hames, Chains, Files, Nails, &c., &c.
SECOND-HAND RAILS, AND EVERY DESCRIPTION OF RAILWAY, COLLIERY, AND CONTRACTORS PLANT ALWAYS ON HAND.

CHARLES PRICE AND CO.'S

PATENT RANGOON ENGINE OIL.

THIS OIL is suitable to every kind of Machinery; it is used almost exclusively in Her Majesty's Dockyards and Fleet, and by the War Office and East India Government; as well as by the Royal Mail Steam Packet Co., Pacific Steam Navigation Co., P. and O. Co., Cunard Co., and by most of the other important Royal Mail Steam Fleets in the kingdom. It is also extensively employed on the various railways, and by many of the leading engineering and manufacturing firms at home and abroad. "Chemical Laboratory, 7, Printing House-square, Blackfriars, April, 1869.
"I hereby certify that the Rangoon Engine Oil, manufactured by Messrs. Chas. Price and Co., is free from any material which can produce corrosion of the metal work of machinery. It is calculated, indeed, to protect metallic surfaces from oxidation, and, from its peculiar character, is not liable to lead to spontaneous combustion of cotton waste or any similar material which might become imbued with it, as is the case with Rape, Gallipoli, and Olive Oils. The lubricating power of this oil is equal to Sperm or Lard Oil.
T. W. KEATES, F.C.S., &c., &c., Consulting Chemist to the Board of Works"

Extract from Mr. BAXTER'S Speech in the House of Commons, May 31st, 1870:—
Chas. Price and Co.'s Rangoon Oil—"a vastly superior article" (speaking of Gallipoli Oil at £72 per ton)—"was obtained for from £40 to £45 per ton."
Every parcel of the Oil sent from the Works bears the Trade Mark of the Firm, and as many spurious imitations of the Rangoon Engine Oil are sold purchasers are requested to observe that none is genuine which does not bear this mark.
Oil, Tallow, and Colour Merchants, Seed Crushers, Turpentine Distillers, &c.
London: CASTLE BAYNARD, UPPER THAMES STREET, & MILLWALL, POPLAR.—Works: ERITH, KENT

THE MINING SHARE LIST.

BRITISH DIVIDEND MINES.

Shares.	Mines.	Paid.	Last Pr.	Clos. Pr.	Total divs.	Per share.	Last paid
1500	Alderley Edge, c, Cheshire*	10 0 0	—		11 16 8	0 5 0	Oct. 1873
20000	Allt-y-Crib, l, Talybont*	2 0 0	—		0 0 6	0 0 6	Feb. 1873
30000	Bampfylde, c, i, mn., Devon*	1 0 0	5¼	5⅜ 5⅝	0 2 0	0 2 0	June 1873
5500	Blaen Caelan, s-l, Cardigan* (£4 sh.)	3 10 0	—		0 10 9	—	—
18000	Boscaswell Downs, t, c, St. Just*	3 0 0	—		0 5 6	0 2 0	Oct. 1871
200	Botallack, t, c, St. Just	116 5 0	25	20 25	619 15 0	5 0 0	Aug. 1872
500	Bronfloyd,*†s-l,(£3000 Deb.B.8p.ct.)	100 0 0	—		110 0 0	2 0 0	Jan. 1872
4000	Brookwood, c, Buckfastleigh	1 16 0	—		2 14 6	0 6 0	Nov. 1873
3348	Cargoll, s-l, Newlyn	4 17 11	1¼	1 1½	4 16 3	0 12 6	Oct. 1872
6400	Cashwell, l, Cumberland*	2 10 0	—		1 4 0	0 4 0	Aug. 1872
7500	Castle-an-Dinas, t, St. Columb*	2 0 0	—		0 10 0	0 2 0	July 1873
1000	Carn Brea, c, t, Illogan†	35 0 0	50	47½ 52½	308 0 0	1 0 0	Feb. 1874
6000	Cath. & Jane, l.* Penrhyndendraeth	5 0 0	—		0 7 6	0 7 6	June 1873
2450	Cook's Kitchen, t, Illogan†	20 4 9	9	9½ 10½	11 17 0	0 7 6	Jan. 1873
10240	Devon Gt. Consols, c, Tavistock†*	0 12 0	1½	½ 1	116 10 0	0 12 0	May 1872
4296	Dolcoath, c, t, Camborne	10 14 10	41	41 43	104 4 2	0 12 6	Jan. 1874
10000	East Balleswidden, t, Sancreed*	1 0 0	—		0 2 11	0 0 5	Feb. 1874
6144	East Caradon, c, St. Cleer†	2 14 6	1	¾ 1	14 19 0	0 2 0	Oct. 1872
300	East Darren, l, Cardiganshire	32 0 0	—		221 10 0	1 0 0	Apr. 1874
6400	East Pool, t, c, Illogan	0 9 9	10	9½ 10	13 11 3	0 2 6	May 1873
5000	Exmouth, s-l, Christow	0 7 6	—		0 1 0	0 1 0	May 1873
2800	Foxdale, l, Isle of Man*†	25 0 0	—		80 15 0	0 10 0	Sept. 1872
40000	Glasgow Cara., c* [30,000 £1 p., 10,000 15s. p.]		1⅜	1¼ 1¾	0 4 10	0 1 0	Sept. 1873
15000	Great Laxey, l, Isle of Man*	4 0 0	12	11½ 12	16 17 0	0 6 0	Apr. 1874
25000	Great West Van, l, Cardigan*	2 0 0	—		0 1 0	0 1 0	Sept. 1873
5908	Great Wheal Vor, t, c, Helston†	40 15 0	¾	½ ¾	15 19 6	0 2 6	June 1872
6400	Green Hurth, l, Durham*	0 6 0	5¼		1 4 0	0 4 0	Nov. 1873
1024	Herodsfoot, l, near Liskeard†	8 10 0	—		62 5 0	0 15 0	Oct. 1872
12000	Hingston Downs, c, Calstock*† (£1 sh.)	—	1¼	¾ 1	4 3 0	0 5 0	Dec. 1872
25000	Killaloe, sl, Tipperary	1 0 0	1	¾ 1	0 3 11½	0 0 6	Mar. 1873
400	Lisburne, l, Cardiganshire	18 15 0	—		561 10 0	1 0 0	Jan. 1874
5120	Lovell, t, Wendron	0 10 0	—		0 17 6	0 1 6	Jan. 1874
9000	Minera Mining Co., l, Wrexham*	5 0 0	40	37½ 40	63 9 8	0 4 0	Feb. 1874
20000	Mining Co. of Ireland, cl, c, l*	7 0 0	6	5¾ 6	0 8 0	0 3 6	July 1872
12000	North Hendre, l, Wales	2 10 0	—		0 12 6	0 2 6	Jan. 1874
2000	North Levant, t, c, St. Just	11 9 6	3¼	3 3¼	4 13 0	0 12 0	Sept. 1873
27000	Old Treburgett,* s-l, ordinary shares	1 0 0	1	¾ ⅞	0 0 9	0 0 9	Feb. 1874
9000	Old Treburgett,* s-l (10 per ct. pref.)	0 10 0	⅝	½ ⅝	0 0 10½	0 0 10½	Feb. 1874
5694	Pedn-an-drea, t, Redruth	8 2 0	—		0 5 0	0 5 0	Nov. 1871
5600	Penhalls, t, St. Agnes	3 0 0	3	2½ 3	3 3 0	0 2 0	Jan. 1874
50000	Penstruthal, t, c, Gwennap	2 0 0	¾	⅝ ⅞	0 1 0	0 1 0	Nov. 1873
6000	Phœnix, t, c, Linkinhorne	4 13 4	3½	3 3½	39 19 10	0 4 0	Nov. 1872
1772	Polberro, t, St. Agnes	15 0 0	—		1 12 6	0 5 0	Mar. 1872
18000	Prince Patrick,* s-l, Holywell	1 0 0	—		0 5 0	0 2 0	Jan. 1874
1120	Providence, t, Lelant† (last call Mar. '74)	14 16 7	1⅛	1 1¼	104 12 6	0 10 0	Sept. 1872
12000	Roman Gravels, l, Salop*	7 10 0	17	15½ 16	3 13 6	0 8 6	Apr. 1874
10000	Shelton, cl, t, St. Austell	1 0 0	—		0 1 0	0 1 0	Feb. 1872
6000	Slimeford Dressing, t, Calstock*	1 0 0	—		0 1 1	0 1 1	Sept. 1872
512	South Caradon, c, St. Cleer	1 5 0	45	50 60	713 0 0	1 0 0	Apr. 1874
5000	South Carn Brea, c, t, Illogan	1 17 6	2⅝	2¼ 2½	0 10 0	0 2 6	July 1872
6000	South Darren, l, Cardigan*	3 6 6	—		1 1 6	0 1 6	Nov. 1870
8771	St. Just Amalgamated, t*	3 10 0	—		0 9 0	0 4 0	Nov. 1871
12000	Tankerville, l, Salop*	6 0 0	10	9 9½	3 8 0	0 6 0	Feb. 1873
30000	Terras, t, St. Austell*	1 0 0	—		0 3 0	0 1 6	Oct. 1872
6000	Tincroft, c, t, Pool, Illogan†	9 0 0	30	31 33	46 18 6	0 15 0	Feb. 1874
4000	Trumpet Consols, t, Helston	6 5 0	—	1¼ 1¾	9 11 0	0 10 0	Nov. 1872
15000	Van, l, Llanidloes*	4 5 0	30	27 30	12 9 6	0 12 6	Apr. 1874
3000	W. Chiverton, l, Perranzabuloe†	10 0 0	—	3 3½	52 10 0	0 5 0	June 1873
2048	West Wheal Frances, t, Illogan	27 3 9	10½	9 11	3 12 6	0 5 0	Oct. 1872
512	Wheal Basset, c, Illogan†	5 2 6	20	10 15	638 10 0	1 10 0	Aug. 1872
4295	Wheal Kitty, t, St. Agnes	5 4 6	8¼	8 8½	11 11 6	0 4 0	Mar. 1874
896	Wheal Margaret, t, Uny Lelant	15 17 6	1¼	1 1¼	82 2 3	0 10 0	May 1872
10000	Wheal Mary, t, St. Dennis*	5 0 0	—		0 1 0	0 1 0	Jan. 1873
80	Wheal Owles, t, St. Just	70 0 0	—		522 10 0	4 0 0	Aug. 1872
12000	Wheal Russell, c, Tavistock	1 0 0	—		0 2 9	0 0 9	Mar. 1874
15000	Wheal Tregoss,* t, Roche	1 0 0	—		0 1 0	0 1 0	Jan. 1873
10000	Wheal Whisper, t, c, Warleggan*	1 0 0	—		0 1 6	0 0 6	May 1873
25000	Wicklow, c, sul, i, Wicklow	2 10 0	3¾	3¼ 3¾	52 9 0	0 2 6	Mar. 1872

FOREIGN DIVIDEND MINES.

Shares.	Mines.	Paid.	Last Pr.	Clos. Pr.	Total divs.	Per share.	Last paid
35500	Alamillos, l, Spain*†	2 0 0	2	1½ 2	1 3 9	0 2 0	Mar. 1874
30000	Almada and Tirito Consol., s*†	1 0 0	¾	¾ ⅞	0 4 3	0 1 0	May 1873
20000	Australian, c, South Australia†	7 7 6	—		0 11 6	0 2 0	July 1873
10000	Battle Mountain,* c, (6240 part pd.)	5 0 0	—		0 10 0	0 10 0	Nov. 1872
15000	Birdseye Creek, g, California*	4 0 0	3⅝	3⅜ 3⅝	0 11 6	0 2 6	Mar. 1874
6000	Bensberg, l, Germany*	10 0 0	7		0 17 4	0 8 0	July 1873
12320	Burra Burra,* c, So. Australia	5 0 0	—		56 0 0	0 10 0	Oct. 1872
20000	Cape Copper Mining,*† So. Africa	7 0 0	26¼	26½ 27	15 15 0	1 0 0	Mar. 1874
140000	Cedar Creek, g, California*	5 0 0	2⅛	1¾ 2	0 5 0	0 2 6	June 1873
30000	Central American Association*†	0 15 0	—		0 6 0	0 1 0	July 1869
15000	Chicago, s, Utah*	10 0 0	—		0 16 0	0 4 0	Sept. 1873
21000	Colorado Terrible, s-l, Colorado*†	5 0 0	4	3½ 4	0 8 0	0 2 0	Oct. 1871
76162	Don Pedro North del Rey*†	0 16 0	⅝	¼ ½	2 5 9	0 2 0	Mar. 1872
93500	Eberhardt and Aurora, s, Nevada*†	10 0 0	4	3⅝ 3⅞	1 0 0	1 0 0	July 1871
2352	Eldorado, g, Nova Scotia*	10 0 0	—		2 5 0	0 15 0	June 1873
60000	Emma,* g, s, Utah (25,000 fully pd.)	20 0 0	2⅛	2 2¼	3 12 0	0 6 0	Dec. 1872
70000	English and Australian, c† S. Aust.	2 10 0	1⅝	1⅜ 1⅝	2 7 3	0 2 6	Mar. 1873
15000	Ferguson, g, California*	2 0 0	—		0 3 0	0 3 0	April 1872
30000	Flagstaff, s, Utah*	10 0 0	3	2⅞ 3⅛	4 2 0	0 5 0	July 1873
25000	Fortuna, l, Spain*†	2 0 0	5¼	4¾ 5¼	4 4 4	0 5 0	Mar. 1874
30000	Gold Run, hyd.	1 0 0	—		0 2 4	0 0 4	Oct. 1872
6[illegible]000	Kapunda Mining Co. Australia†	1 3 0	⅝	½ ⅝	0 2 4	0 0 6	June 1873
20000	Last Chance, s,* Utah	5 0 0	2	1½ 1⅝	0 14 0	0 2 0	July 1873
15000	Linares, l, Spain*†	3 0 0	4	3½ 4	14 10 10	0 7 6	Mar. 1874
7837	Lusitanian, Portugal*† (£5 shares)	3 0 0	1¼	1½ 1¾	1 11 6	0 1 6	Mar. 1873
1[illegible]000	Mammoth Copperopolis of Utah, c, s	10 0 0	—		0 5 0	0 5 0	Dec. 1872
5000	Mountain Chief, s, Utah*	10 0 0	—		0 4 0	0 4 0	Jan. 1873
18000	Prussian Mining & Ironworks, cl, i.	30 0 0	—		6 0 0	3 0 0	July 1873
10000	Pontgibaud, s-l, France†	20 0 0	22	20 22	14 16 11	1 3 0	Dec. 1873
100000	Port Phillip, g, Clunes*†	1 0 0	⅝	½ ⅝	1 8 0	0 1 0	Jan. 1872
44000	Richmond Consols, s, Nevada*†	5 0 0	7¼	6¾ 7	1 12 6	0 5 0	Mar. 1874
120000	Scottish Australian Mining Co.*†	1 0 0	1⅝	1½ 1¾	12 per cent.		Nov. 1873
112500	Sierra Buttes, g, California*†	2 0 0	2	1½ 2	1 8 0	0 2 0	Dec. 1873
60000	South Aurora, s, Nevada*	5 0 0	—		0 14 2	0 2 0	Nov. 1873
15000	Sweetland Creek, g, California*†	4 0 0	4¼	4¼ 4½	2 12 0	0 4 0	Mar. 1874
20000	Tolima, g, s* (6000 sh. are £5 f. pd.)	4 0 0	—		0 11 6	0 6 6	May 1874
500	Westphalian, s-l, c, Prussia*	20 0 0	—		54 0 0	20 0 0	Dec. 1873
15000	Western Andes, s* (8000 £5 fy. pd.)	3 10 0	2½	2 2½	0 3 7	0 1 9	Jan. 1874

NON-DIVIDEND FOREIGN MINES.

Shares.	Mines.	Paid.	Last Pr.	Clos. Pr.	Last Call.
20000	Anglo-Australian, g, Victoria*	2 10 0	—		Sept. 1872
20000	Australian United, g, Victoria*†	2 10 0	1¾	1¼ 1¾	Fully pd.
3000	Bellavista, s, Peru* (£10 shares)	10 0 0	—		Fully pd.
30000	Blue Tent, hyd., California	5 0 0	5¼	5 5¼	Fully pd.
60000	Braganza, g, Brazil*†	0 15 0	—		Oct. 1870
12000	Camp Floyd, s, Utah*	10 0 0	—		Fully pd.
35000	Cesena Sulphur Company, Romanga, Italy*	10 0 0	—		Fully pd.
50152	Chontales, g, s, Nicaragua*† (and 12,542 of £1 15s.)	2 0 0	⅜	¼ ⅜	Fully pd.
6000	Clifton, s, Colorado*	5 0 0	—		Feb. 1872
10000	Crescent, g, Plumas County, California*	10 0 0	—		Fully pd.
100000	Cuiaba, g, Minas Geraes, Brazil*	0 17 6	—		June 1872
10000	Douglas, s, Georgetown, Col.	5 0 0	—		Fully pd.
7500	East Sheboygan Preference* (40,000 ordinary shares)	2 0 0	—		Fully pd.
35000	Excelsior Hydraulic Gold Washing Co., California*	6 0 0	—		Dec. 1871
60000	Exchequer, g, s, California*	1 0 0	—		Fully pd.
55000	Frontino and Bolivia, g, New Granada*†	2 0 0	⅜	⅛ ¼	Fully pd.
50000	General Brazilian, g*	1 0 0	—		Fully pd.
10000	Goetzel Tunnel Co., Georgetown, Col.	7 0 0	—		Fully pd.
40000	Holcombe Valley, g,* California	1 0 0	¾	⅞ 1	July 1873
6000	Hornachos,* s-l, (£10 shares)	7 0 0	—		Jan. 1874
20000	Imperial Brazilian Collieries, Brazil*	5 0 0	—		Fully pd.
20000	I. X. L., g, s, California*	5 0 0	—		Fully pd.
50000	Javali, g, Nicaragua*	2 0 0	⅜	¼ ⅜	Fully pd.
12000	Lanestosa,* l, z, Viscaya, Spain (£2 shares)	1 10 0	—		Jan. 1874
65000	London and California, g*†	2 0 0	—		Fully pd.
75000	Malabar, g, Colombia* (65000 issued)	1 0 0	⅞	⅝ ⅞	Fully pd.
4000	Malaga, l, Spain*	10 0 0	—		Fully pd.
40000	Malpaso, g, Colombia* (10000 pref. shares, 5s. paid)	1 0 0	⅞	½ ¾	Fully pd.
12000	Menzenberg, c, Honnef, Germany*	5 5 0	—		Fully pd.
14000	Montague & Waverley Gold Quartz Crushing Co.,* N. Scot.	2 0 0	—		Allotment
6000	Monte Loreto, g, c, Italy*	5 0 0	—		Fully pd.
15000	New Pacific, s, Nevada*	0 7 6	⅝	⅜ ⅝	Jan. 1874
66000	New Quebrada, c, Venezuela*	5 0 0	3¾	3½ 3¾	Fully pd.
50000	New Rosario, s, Mexico*	1 0 0	⅞	⅞ 1	Fully pd.
20000	New Zealand Kapanga, g, Coromandel*	5 0 0	5	4½ 5	Fully pd.
10000	Newfoundland,* l	10 0 0	—		Fully pd.
20000	North American, g*	4 0 0	—		Fully pd.
50000	Panulcillo, c, Chili*†	4 0 0	1½	1 1½	Fully pd.
80000	Pestarena United, g, Italy*†	3 0 0	⅜	¼ ⅜	Fully pd.
50000	Rica, g, Colombia* (40000 issued)	1 0 0	⅝	⅜ ⅝	Fully pd.
100000	Rio Tinto,* c, Huelva, Spain	6 10 0	7¼	6¾ 7¼	Jan. 1874
100000	Rossa Grande, g, Brazil*† (£1 shares)	0 19 0	½	¼ ½	July 1872
32500	Ruby Consolidated, s, Nevada*	10 0 0	—		Fully pd.
30000	Russia, c, Orenburg and Uta*†	10 0 0	3½	3 3½	Fully pd.
25000	San Pedro, c, Chili*	2 0 0	—	1⅞ 2⅛	Fully pd.
30000	Santa Barbara,* g, Brazil	0 7 6	1	¾ 1	Mar. 1872
10000	Silver Plume, s, Colorado*	1 0 0	—		Fully pd.
37500	Snowdrift, s, Colorado*	2 0 0	—		Fully pd.
£253000	St. John del Rey*† (£5 stock and its multiples can be dealt in)		227½	220 225	"Stock"
25000	Star of Nevada, s* (12000 issued)	2 0 0	—		Fully pd.
30000	Tecoma, s, Utah*	10 0 0	¼	⅛ ¼	Fully pd.
20000	Thornhill Reef, g, Australia*	1 0 0	⅝	⅜ ⅝	Fully pd.
43174	United Mexican, s, Mexico*†‡	28 7 8	2½	3¼ 3¾	May 1868
14000	Utah, g, s-l, Utah*	5 0 0	1⅜	1¼ 1⅜	Fully pd.
75000	Yorke Peninsula, c, South Australia	1 0 0	¼	⅛ ¼	Fully pd.

NON-DIVIDEND MINES.

Shares.	Mines.	Paid.	Last Pr.	Clos. Pr.
25000	Aberdaunant, l, Llanidloes*	1 0 0	1⅝	1¼ 1½
10000	Aberystwith,* s-l, Cardigan	4 0 0	—	
18000	Ambrose Lake, t, c*	1 10 0	—	
12000	Assheton, l, Carnarvonshire*	5 0 0	3¼	2¾ 3¼
50000	Ballycummisk,* c, Schull	2 0 0	—	
12000	Bedford Consols, c, Tavistock	1 7 0	1¼	1 1¼
4000	Bedford United, c, Tavistock	1 17 6	—	
25000	Belstone,* c, Devon (3000 sh. 2s.6d. pd.)	1 0 0	1½	1¼ 1½
5000	Blue Hills, t, c, St. Agnes	2 4 6	¾	½ ¾
15000	Bog, l, Shropshire* (1000 reserve)	2 0 0	1	⅞ 1⅛
12000	Bowden Hill,* mn (7000 sh. £1 pd.)	0 15 0	—	
20000	Brynambor, l, Cardigan	1 0 0	—	
30000	Burrow & Butson,* t, c, bl, St. Agnes	1 0 0	—	
20000	Burra Burra,* t, c, bl, Kenwyn†	1 0 0	1¼	1⅛ 1¼
6000	Bwadrain, s-l, Cardigan* (£4 shares)	3 15 6	—	
5094	Bwlch Consols, s-l, Cardigan*‡ (£5 sh.)	4 16 0	—	
12000	Cae Gynon, l, Cardiganshire*†	2 0 0	—	
30000	Caldbeck Fells, l, Cumberland*	2 0 0	—	
5584	Carn Camborne, c, t, Camborne	5 3 6	¼	⅛ ¼
10000	Castle Gate, t, St. Colomb*	1 0 0	—	
10000	Cathedral, t, c, Gwennap*	1 10 0	—	
3000	Cefn Brwyno (lim. to £5)	5 0 0	—	
6000	Cefn Consols, l, Flintshire*	5 0 0	—	
10000	Central Van,* l, bl, Llanidloes	5 0 0	—	
24000	Court Grange, s-l, Cardiganshire	0 10 0	½	⅜ ½
24051	Crenver & Abraham*† (25949 sh. £1)	2 0 0	½	⅜ ½
15000	Cwm Bychan,* s-l, Montgomery	1 0 0	—	
30000	Cwm Elan, l, Radnorshire*	1 0 0	—	
15000	Cwm Nant Ddu,* l, Montgomery	1 0 0	—	
10000	Cwm Ricket and Maesnant, l, Mont.*	2 11 0	—	
256	Cwmystwith, l, Cardiganshire‡	60 0 0	—	
15000	Deer Park, t, c, Tavistock	2 0 0	—	
7500	Denbighshire Consolidated, l*	3 0 0	—	
656	Ding Dong, t, Gulval	49 14 6	—	
12000	Dolwen Consols, l, Cardigan*	1 0 0	—	
6500	Drake Walls, t, c, Calstock	5 0 0	—	
10000	Duchy Great Consols, c, Calstock	3 0 0	—	
10000	Dunsley W. Phœnix, t, Linkin.*	2 0 0	—	
15000	Dyliffe,* l, Montgomeryshire	6 0 0	—	
512	East Basset, c, Redruth†‡	73 10 0	2¼	2 2¼
800	East Black Craig,* l., Scotland	25 0 0	—	
3000	East Boscaswell, t, St. Just	5 0 0	—	
4000	East Chiverton, l, Perranzabuloe	5 17 6	1¼	1 1¼
12000	East Cwm Vron, l, Llanidloes*	2 0 0	—	
3000	East Dolcoath, t, Illogan	10 0 0	—	
6000	East Grenville, c, Camborne	6 11 0	½	¼ ½
4000	East Gunnislake and So. Bedford, c.	13 13 0	—	
50000	East Llangynog, l, Montgomery*	2 0 0	—	
30000	E. Nant-y-mwyn,* l, Brecknockshire.	1 0 0	—	
6000	E. Tywarnhaile and Croft Prince, t, c.	0 10 0	¾	
15000	East Van, l, Llanidloes*	5 0 0	1¼	1 1¼
1906	East Wheal Lovell, t, Wendron*‡	5 19 0	13½	12 13
12800	Excelsior, t, c, Stoke Climsland	0 10 6	—	
5000	Flintshire,* l	6 0 0	—	
12800	Florence and Tonkin United* l.	0 10 0	—	
10000	Franco Consols, t, c*	1 0 0	—	
5000	Frank Mills, l, Christow	4 6 0	—	
8000	Fronvellan, l, Mont.* [4000 sh. fy. pd.]	0 15 0	—	
12000	Furze Hill, t, Tavis.*	1 0 0	—	
3950	Gawton, c, Tavistock	3 13 0	⅝	⅜ ½
5000	Gem, t, Whitchurch	2 10 0	—	
12500	Gilfach, s-l, Llangadock	2 0 0	—	
10000	Glan Severn, s-l, Flintshire	1 0 0	1	
30000	Glasdir, c*	1 0 0	—	
128	Gluvian Moor, s-l, St. Columb	3 0 0	—	
12000	Goginan, and Level Newydd, Card., l	1 0 0	—	
7500	Gorsedd and Celyn Level, l, Flint	2 0 0	—	
20000	Great East Foxdale, l, Isle of Man	1 0 0	—	
30000	Great Harvest, t, c, St. Austell*	1 0 0	—	
10000	Great Mountain, s-l, Carnarvon*	1 0 0	—	
2000	Great Retallack, s-l, b, Perranzabuloe	3 8 0	—	
25000	Great Snaefell, l, Isle of Man	0 12 6	—	
4400	Gt. West Chiverton, s-l (8000 shares)	2 10 0	—	
4096	Great Wh. Lovell, t, Wendron	2 15 0	—	
15000	Grogwinion, l, Cardigan*	2 0 0	2¾	2½ 2¾
10240	Gunnislake (Clitters'), t, c	5 5 0	—	
12000	Gwydyr Park, l, (& 12000 pref. 20 p.c.)	1 10 0	¼	⅛ ¼
6000	Hobb's Hill (£2), t, St. Neot*	2 0 0	—	
12000	Islay, l, Scotland*	1 0 0	—	
6000	Keswick United, l*	5 0 0	—	
6000	Killifreth, t, Chacewater	1 2 0	½	
6000	Lady Ashburton, c, s-l, t, Callington	0 2 0	—	
12000	Ladywell,* l, Salop	2 10 0	2½	2¼ 2½
2500	Levant, c, t, St. Just	7 5 0	—	
10000	Llanarmon, Denbigh	2 0 0	—	
20000	Llanidloes Wh. Van,* l, Montgomery	1 0 0	—	
30000	Llanrwst, l, Carnarvon	2 0 0	2½	2 2¼
17000	Llywernog, l, Cardiganshire	0 16 0	—	
6000	Llynelys Unit., l, c, oxide, Salop	2 0 0	—	
9000	Marke Valley, c, Caradon*	4 16 6	⅜	⅜ ⅝
6000	Medlyn Moor, t, Wendron	0 5 10	—	
8000	Mellanear, c, Hayle*	4 0 0	—	
11000	Melindur Valley, s-l, Cardigan* (£3)	3 0 0	3⅜	3⅛ 3⅜
12500	Menheniott,* s-l	1 0 0	—	
25000	Mount Dally, s-l, Isle of Man*	1 0 0	—	
6144	Nangiles, t, c, Kea	9 11 0	½	¼ ½
4000	Nanty, l, Montgomeryshire*	1 0 0	—	
2000	Nant-y-Ricket,* c, l, Montgom.	5 0 0	—	
10000	New Beldon, l, Northumberland*	1 0 0	—	
8000	New Dolcoath, t, c, Camborne*	3 0 0	1¼	1 1⅛
4096	New East Lovell, t, Wendron	0 10 0	—	
2000	New Hendra, t, Breage	1 16 0	1¼	1 1¼
6400	New Pembroke, t, c, Par Station	5 4 6	—	
5000	New Rosewarne, c, Gwinear	3 17 0	¾	½ ¾
3000	New Silver Rake, s-l, Flintshire	5 0 0	—	
3200	New South Merllyn, l, Flint*	2 10 0	—	
1200	New West Rosewarne, t, Gwinear	6 10 0	1¼	1 1¼
4000	New Wh. Grylls, t, Perranuthnoe	0 16 6	—	
3193	New Wheal Lovell, t, Wendron	6 6 10	—	
1200	New Wh. Seton, c, Camborne	36 16 8	¾	½ ¾
512	North Busy United, t, c, Kenwyn	2 8 0	—	
25000	North Laxey*	2 0 0	—	
2000	North Wheal Towan, t, c, Illogan	1 19 6	—	
10000	North Pool, c, Illogan* (Reserve 2500)	2 0 0	—	
1000	North Rosewarne, c, Gwinear	6 12 6	2	1¾ 2
12000	North Tankerville, l, Salop*	1 0 0	—	
8000	North Treleigh Wood, t, Redruth*	1 0 0	1	¾ 1
5936	North Treskerby, c, St. Agnes	3 8 10	1⅛	1 1⅛
12000	Old Batholes,* l, Salop	1 10 0	—	
15000	Oola Hills,* l, c, Limerick	1 0 0	—	
24000	Parys Mntain.* c, (& 5000l. 15 p.ct. pref.)	3 0 0	⅝	⅜ ⅝
1621	Penhale Wheal Vor, t, c, Helston	16 15 0	—	
12000	Penaerley, l, Shropshire*	2 0 0	1½	1¼ 1½
15000	Penrhyn, l, Carnarvonshire*	2 0 0	—	
12000	Pen-yr-Henblas, l, North Wales*	1 0 0	—	
18000	Perkins Beach, l, Salop*	1 0 0	⅜	¼ ⅜
25000	Perran Consols,* t, Perran	1 0 0	1	⅞ 1
3000	Phœnix, s-l, Perranzabuloe	9 0 0	—	
12000	Plynlimmon, l, Llanidloes*	2 5 0	⅝	⅜ ⅝
2000	Polbreen, t, St. Agnes	6 10 0	—	
2000	Prideaux Wood, t, Llanivery	5 0 0	—	
12800	Prince of Wales, c, Calstock‡	1 3 0	4s.	⅜ ½
12000	Rhydtalog, s-l, Cardiganshire	1 0 0	—	
15000	Rookhope Valley, l, Durham*	4 0 0	1	¾ 1
5869	Rosewall Hill and Ransom, t	4 2 6	¾	¼ ½
6060	Rosewarne United, c, t, Gwinear	1 10 0	⅝	⅜ ⅝
3000	Russell, s-l, Swymbridge	0 6 0	—	
6123	South Condurrow, t, c, Camborne‡	6 5 6	4	3¼ 3¾
120	South Devon, f-c., Tavistock	1 0 0	—	
512	South Dolcoath, c, t, Redruth	12 5 0	¾	½ ¾
6000	South Fowey, t, c, Tywardreath	2 6 6	—	
5000	South Great Work, t, St. Hilary	2 14 0	—	
12000	South Kit Hill, t, Callington*	1 0 0	—	
12000	South Lisburne, l, bl, Cardigan*	0 12 6	—	
700	South Margaret, t, Ludgvan	1 10 0	1	⅞ 1
12000	South Phœnix, t, c, Linkinhorne	0 16 0	¾	⅝ ¾
12000	South Plynlimmon, l, Llanidloes*	1 7 6	—	
18000	South Roman Gravels, l, Salop*	1 10 0	¾	½ ⅝
6000	South Roskear, t, c, Camborne	6 0 0	—	
6000	South Tolcarne, t, c, Camborne	0 15 0	½	¼ ½
12000	South Van,* l, Montgomeryshire	1 0 0	—	
3000	South Ward, l, Beerferris	3 0 0	1	¾ 1
937	South Wheal Crofty, c, Illogan	35 0 10	13	18 20
496	South Wh. Frances, c, Illogan†	41 3 9	9	10 12½
6000	South Wheal Kitty, t, St. Agnes	0 5 0	—	
4000	St. Agnes Consols, t*	5 0 0	5⅜	5⅛ 5⅜
14000	St. Blazey, t.* (£2 10s. shares)	2 0 0	1¾	1½ 1¾
62000	St. Breward Consols,* c, s, Cornwall	1 0 0	—	
20000	St. Dennis Consols, t, St. Dennis	1 0 0	—	
940	St. Ives Consols, t, St. Ives	12 15 0	4½	6 8
6000	St. Lawrence, Amal., l, Flintshire*	2 0 0	—	
16000	Success, &c., l, Derb. (12,000l. called)	1 0 0	—	
12000	Tamar Consols, s-l, Lifton, Devon	1 0 0	1¼	1⅛ 1¼
3879	Tamar Valley, s-l, Beeralston	1 10 0	—	
6400	Teesdale,* l, Durham	0 5 0	1¼	1 1¼
4000	Teign Valley, l, bar., Bridford	1 0 0	—	
2000	The Queens,* s-l, Holywell	2 0 0	2¼	2 2¼
3526	Tin Valley, St. Neot	1 13 6	—	
5000	Treleigh Wood, t, Redruth	3 18 0	3	2 3
1024	Treleigh Wood United, t, Redruth	1 5 0	¾	½ ¾
547	Trelyon Consols	15 0 0	⅝	½ ⅝
12000	Trethellan, s-l, Crantock*	2 0 0	—	
7500	Tresellyn, t, Altarnun	2 10 0	—	
15000	Tretoil,* t, l, Bodmin	2 0 0	—	
2800	Trevarrack, t, c, Uny Lelant	4 0 0	1⅜	1⅛ 1⅜
200	Tucker's Downs, Camborne	2 0 0	—	
12000	Tyllwyd,* s-l, Cardigan	1 0 0	—	
6000	Unity Wood, t, c, Kenwyn	2 10 0	¾	½ ¾
15000	Van Consols, l, Llanidloes*	2 10 0	4¼	4 4¼
1000	Vaughan, s-l, Cardigan	7 0 0	—	

NON-DIVIDEND MINES—*Continued.*

Shares.	Mines.	Paid.	Last Pr.	Clos. Pr.
20000	Victoria, t, Perranzabuloe	1 0 0	—	
25000	Vron United, s-l, Flintshire	1 0 0	—	
30000	Welsh, l, Cardigan*	1 0 0	—	
6000	West Basset, c, Illogan†‡	3 16 8	10	10 11
110592	West Caradon, c, St. Cleer*†‡	1 1 0	2s.	1s. 2s.
100	West Condurrow, t, c, Camborne	5 0 0	—	
10000	W. Esgair Lle, l, Card.*	2 0 0	—	
5000	West Godolphin, t, c, Breage	1 8 0	2⅞	2⅝ 2⅞
12000	West Goginan,* Cardiganshire	2 0 0	2½	2 2⅜
5164	West Great Work, t, Breage	4 16 0	1⅜	1¼ 1⅜
10000	West Llangynog, s-l, Montgomery	2 0 0	—	
12000	West Maria & Fortescue, t, c, Lamer.	4 7 6	⅜	¼ ⅜
50000	West Milwr, s-l, Flint	1 0 0	—	
12000	West Pant-y-Go, s-l, Flint*	1 0 0	—	
3000	West Phœnix, t, Linkinhorne	0 18 0	—	
1403	West Polbreen, t, St. Agnes	3 5 0	—	
10000	West Roskear, t, s-l, bl, c, Camborne	0 2 0	—	
12000	West Stiperstones, l, Salop*	1 0 0	—	
12000	West Tankerville, l, Salop*	3 0 0	2¼	1¾ 2
512	West Tolgus, c, Redruth	94 0 0	29	35 40
2000	West Wheal Lucy, t, c, Lelant	1 10 6	—	
6000	West Wheal Gorland, t, c	3 0 0	1⅛	1 1¼
600	West Wheal Seton, c, Camborne†	55 15 0	10	11 13
6000	Wheal Agar, c, Illogan	9 12 0	⅞	1⅛ 1⅜
6000	Wheal Argus, t, Sancreed	0 10 0	—	
25000	Wheal Arthur, t, c, Calstock*	1 0 0	—	
741	Wheal Basset and Grylls, t	9 18 6	—	
512	Wheal Buller, c, Redruth†‡	55 5 0	5	3 5
6000	Wheal Coates, t, St. Agnes	2 0 0	—	
6000	Wheal Crebor, c, Tavistock	4 1 0	2½	2⅜ 2⅝
8000	Wheal Emma, t, c, Buckfastleigh	1 10 0	—	
5179	Wheal Grenville, c, Camborne*	8 12 6	5	4¼ 5¼
2048	Wheal Jane, t, Kea	2 13 10	1¼	1 1¼
12000	Wheal Jewell, c, Marazion	1 1 0	—	
12000	Wh. Mary Hutchings,* t, Plympton.	1 10 0	10¾	10½ 10¾
3000	Wheal Peevor, t, Redruth	4 5 0	4	3½ 4
6000	Wheal Prussia, t, Redruth	2 0 0	—	
10000	Wheal Ruby, t, Ludgvan	1 0 0	—	
4568	Wheal Sparnon, t, Redruth	4 0 0	—	
1000	Wheal Speedwell, t, c, Breage	1 0 0	—	
4096	Wheal Uny, t, c, Redruth	12 9 6	2½	1¾ 2
6000	Wheal Vincent, t, Alternun	1 11 0	—	
8000	White Works, t, Dartmoor*	5 0 0	—	
12000	Willoughby, l, Llanrwst	2 10 0	—	
10000	Wood Close & Polgooth, t, St. Mew.*	2 10 0	—	
1200	Zennor, t, Cornwall	5 0 0	—	10 10½

IRON AND COAL COMPANIES.

Shares.	Company.	Paid.	Price.	
£100	John Abbot and Co. [L.]	£75 0 0	¼ dis.	par.
15	Albion Steel and Wire Co. [L.]	10 0 0	11	10½ dis.
5	Altami Colliery Co. [L.]	5 0 0		—
100	Ashbury Co. [L.]	90 0 0	30	27½ dis.
10	Bagnall, John, and Sons [L.]	10 0 0	2½	2 dis.
10	Benhar Coal Co. [L.]	10 0 0	5	5¼ pm.
50	Bilbao Iron Ore Co. [L.]	35 0 0	2¾	3 pm.
50	Blaenavon Iron and Steel Co. [L.]	37 10 0		—
50	Blochairn Iron Co. [L.]	15 0 0	par.	1 pm.
100	Bolckow, Vaughan, and Co. [L.]...A	35 0 0	21	22 pm.
30	Ditto ditto ...B	30 0 0	18	19 pm.
50	Bowling Iron Co. [L.]	50 0 0		—
5	Brynkinalt Collieries [L.]	5 0 0	½	1½ pm.
50	Britannia Ironworks [L.]	25 0 0		—
50	Brown, Bailey, and Dixon [L.]	35 0 0	18	17 dis.
100	Brown, John, and Co. [L.]	70 0 0	7½	5 dis.
100	Cammell and Co. [L.]	80 0 0	20	17½ dis.
20	Cannock and Huntingdon Coal [L.]	2 0 0	¼	¾ pm.
10	Cardiff & Swansea St. Coal Co. [L.]	4 0 0	par	¼ pm.
10	Cardigan Steel and Wire Co. [L.]	5 10 0	6	5 dis.
10	Central Swedish Iron and Steel [L.]	10 0 0	7	8
50	Charlton Iron Co. [L.]	27 10 0	7¼	6¾ dis.
50	Chatterley Iron Co. [L.]	40 0 0	7	5 dis.
10	Chillington Iron Co. [L.]	10 0 0	6¼	6¾
1	Clee Hill Colliery Co. [L.]	1 0 0	1	1¼
10	Consett Iron Co. [L.]	7 10 0	16	18 pm.
1	Consett Spanish Ore [L.]	1 0 0	¼	⅛ dis.
50	Cooke, William, and Co. [L.]	10 0 0	8	7 dis.
20	Darlington Iron Co. [L.]	8 0 0	½	1½ pm.
10	Davis's Merthyr Colliery Co. [L.]	10 0 0		—
15	Davy Brothers [L.]	10 0 0	12	13 pm.
32	Ebbw Vale Co. [L.]	29 0 0	7	6 dis.
6	Fairbairn Engineering	5 0 0	1¾	1¼ dis.
20	General Mining Association [L.]	20 0 0	11½	12½
10	Glasgow Port Washington [L.]	5 0 0	2¾	2⅝ dis.
20	Great Western Coal Co. [L.]	17 0 0	8	9 pm.
2	Gwyngwillim Colliery Co. [L.]	2 0 0		—
15	Hopkins, Gilkes, and Co. [L.]	10 0 0	1⅛	1 dis.
10	Ifton Rhyn Colliery Co. [L.]	5 0 0	5	4 dis.
10	Ince Rolling Mills [L.]	8 0 0	8	8½ pm.
50	Knowles, Andrew, and Sons [L.]	12 0 0	1¼	¾ dis.
10	Llay Hall Coal, Iron, & Firebrick [L.]	10 0 0	¼ dis.	par
5	Littledean Woodside Coll. Co. [L.]	5 0 0		—
50	Llynvi, Ogmore, & Tondu Co. [L.]	42 0 0	5½	5 dis.
13	LlynviValley Col. Co. [L.] 15 p.c. pref.	10 0 0	par	½ pm.
10	Lydney and Wigpool Iron Ore [L.]	7 5 0	2¼	1½ dis.
10	Marbella Iron Ore Co. [L.]	10 0 0	5¼	5¼ dis.
10	Merry and Cuninghame [L.]	3 10 0	¼ dis.	¼ pm.
6	Mersey Steel and Iron Co. [L.]	5 0 0	⅛	⅜ pm.
5	Mold Argoed Colliery Co. [L.]	5 0 0	par	1 pm.
10	Monkland Iron and Coal Co. [L.]	10 0 0	6	5¾ dis.
10	Midland Iron Co. [L.]	5 0 0	5¾	6¼ pm.
4	Mwyndy Iron Ore [L.]	3 10 0	1¾	1¼ dis.
100	Nant-y-Glo and Blaina (8 p.c. pref.)	100 0 0	45	49
10	Neepsend Rolling Mills [L.]	3 0 0	1	1¼ pm.
1	Nerbudda Coal and Iron	0 8 0	¼	⅛ dis.
10	Newport Abercarn Coal Co. [L.]	4 0 0	⅜	½ dis.
10	No. of Ireland Iron Company [L.]	3 0 0		—
10	Northmptn. Coal, Iron & Wagon [L.]	3 0 0	2	2¼ pm.
10	Northfield Iron Co. [L.]	6 0 0	½	¼ dis.
35	Palmer's Shipbuilding and Iron [L.]	25 0 0	7½	7 dis.
100	Parkgate Iron Co. [L.]	65 0 0	22½	25 pm.
20	Patent Shaft and Axletree [L.]	10 0 0	6½	7 pm.
20	Pelsall Coal and Iron [L.]	15 0 0	5	3 dis.
50	Phœnix Bessemer Co. [L.]	30 0 0	1½	½ dis.
50	Rhondda Merthyr Coal Co. [L.]	50 0 0	35	40 pm.
50	Rhymney Iron Co. [L.]	50 0 0	43	45
100	Sandwell Park Colliery Co. [L.]	80 0 0	120	130 pm.
50	Shotts Iron Co. [L.]	50 0 0	37½	40 pm.
100	Sheepbridge Iron and Coal [L.]	55 0 0	18	19 pm.
10	Sheffield Forge and Rolling Mill [L.]	2 10 0	1½	1¾ pm.
50	Silkstone & Dodworth Cl. & Iron [L.]	17 0 0	2	2¼ pm.
5	Silkstone Fall Colliery Co. [L.]	4 0 0		—
20	Skerne Ironworks [L.]	20 0 0		—
50	Somorrostro Iron Co. [L.]	50 0 0		—
20	South Wales Coal Co. [L.]	17 0 0	6	7 pm.
100	Staveley Iron and Coal Co. [L.]	60 0 0	30	32½ pm.
100	Ditto ditto New	10 0 0	5	6 pm.
10	Stranton Iron and Steel Co. [L.]	7 0 0		—
20	South Cleveland Ironworks [L.]	20 0 0	9½	8½ dis.
100	Thames Iron Company	100 0 0	9	11 pm.
7½	Titanic Iron and Steel	5 0 0		—
20	Ulverston Mining Co. [L.]	10 0 0	¼	¼ dis.
1	United Bituminous Collieries [L.]	1 0 0		—
10	Vancouver Coal [L.]	6 0 0	2	2¼ pm.
100	Vickers, Sons, and Co. [L.]	100 0 0	35	40 pm.
50	Welsh Ironworks Co. [L.]	50 0 0		—
25	W. Cumberland I. and Steel [L.]	20 0 0	4	2 dis.
10	West Mostyn Coal [L.] (12 p.c.pref.)	2 0 0	¼	½ pm.
5	West Swansea Colliery Co. [L.]	3 0 0		—
10	Whitehaven Iron Co. [L.]	10 0 0		—
100	Wigan and Whiston Coal Co. [L.]	70 0 0	15	20 pm.
100	Wigan Coal and Iron Co. [L.]	75 0 0		—

WAGON COMPANIES.

10	Birmingham Wagon Co. [L.]	10 0 0	17¼	17¾
20	British Wagon Co. [L.]	10 0 0	4½	4⅜ pm.
10	Gloucester Wagon Co. [L.]	10 0 0	4¼	4½ pm.
10	Metropolitan Wagon Co. [L.]	5 0 0	2⅛	2⅜ pm.
50	Midland Wagon Co. [L.]	50 0 0	88	90
50	Ditto New	35 0 0	24	26 pm.
20	North Central Wagon Co. [L.]	20 0 0	12⅜	12½ pm.
20	Ditto New	16 0 0	12⅜	12½ pm.
10	North of England Wagon Co. [L.]	1 10 0		—
10	Parkgate Wagon Co. [L.]	5 0 0	3⅜	3⅛ pm.
10	Scottish Wagon Co. [L.]	10 0 0	1⅜	1⅝ pm.
20	Sheffield Wagon Co. [L.]	14 0 0	4⅜	4⅞ pm.
10	Yorkshire Wagon Co. [L.]	10 0 0	4¾	5 pm.

MISCELLANEOUS.

10	Anglo-Mexican Mint	10 0 0	11	18
2	Assoc. of Land Financiers Co. [L.]	2 0 0	½	1 pm.
100	Ditto Debentures	100 0 0	5	6 pm.
25	Copper Miners of Eng. (7 p. c. pref.)	25 0 0	15	16
5	Diamond Rock Boring	4 0 0	⅛ dis.	⅛ pm.
5	Gen. Phos. & Chem. Works Co. [L.]	5 0 0	par	½ pm.
50	Ditto Debentures	50 0 0	5	6 pm.
10	Huntingdon Copper and Sul. Co.	8 0 0	4½	3¾ dis.
10	Silber Light (ord. sh.)	10 0 0	7⅛	8½
10	Tharsis Sulphur and Copper Co.	10 0 0	25	25¼

b, blende; cl, coal; c, copper; g, gold; , lead; s, silver; sl, slate; s-l, silver-lead; t, tin; z, zinc.
* Limited Liability Companies; † quoted on the Stock Exchange. ‡ have paid dividends.

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